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LECTURES
ON
COMPARATIVE ANATOMY
AND
ANIMAL PHYSIOLOGY,

DELIVERED BY

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LECTURE V.

ON THE ORGANS OF SUPPORT OF POLYPIFEROUS ANIMALS.

THE skeleton of the next class of animals, Gentlemen—the class of Zoophytes, or Polypifera—presents much greater variety in its construction and form than the skeleton of the class we last considered. The plant-like form which we saw so marked in the skeletons of the soft poriferous animals, which we were examining yesterday, is still more marked in the class of zoophytes. The numerous examples of lithophytes and keratophytes that are before you, will convince you of the remarkable resemblance they present, in their outward forms, to the forms familiar to you in the vegetable kingdom. Indeed, the first announcement that those gorgoniæ and sertulariæ I hold in my hand are carnivorous animals, and that they feed upon living prey, would be, and was, calculated to excite some astonishment before they were thoroughly investigated—before their digestive organs, the organs by which they seize their prey, and the means of conveying it to their digestive organs, were minutely examined, and they were formerly described as plants; but now the circumstance is beyond doubt that they, like the preceding class, belong to the animal kingdom.

We have not yet arrived at that stage of the animal kingdom when the skeleton itself becomes an organised substance which can grow and be renewed, which can be permeated by absorbents, and where fresh matter can be deposited in the place of the materials removed by lymphatic vessels; we have long yet to wait till we come to beings of that elevated character. We meet with them first in the lowest fishes, or among the cephalopods. We are now speaking of extravascular skeletons, consisting of unorganised materials generally of an earthy matter, most frequently of the carbonate of lime, although the phosphate is also found in them. These materials are exuded from the surface of the body, or into the cellular texture of the interior; and these, whether on the surface or in the interior, form, as in the highest animals, the solid framework of the whole body.

In the class of zoophytes, then, you are not to look for that fibrous arrangement of the earthy matter which you know to exist in the skeletons of man, and of all vertebrated animals where there are capillaries of bloodvessels, where there are absorbents and nervous filaments penetrating through all parts of the fibrous texture—that is an organised texture. The fibrous texture of the shells of the radiated and molluscous classes is crystalline and extravascular. The subjects we are now treating of, and which we shall continue to be engaged with till we rise to near the vertebrated classes, are of a more homogeneous and compact nature; and when once these component particles are exuded, they are seldom removed or abraded. They generally remain permanent, on the points of the skeleton where they were originally deposited, though sometimes they are again diminished by the contact of the living parts, where there is much friction.

Now as we examine these skeletons of the *polypiferous* animals—those which have polypi,—our curiosity will naturally

be excited to know how the skeletons could come to be of such enormous sizes as we find them, without having absorbents, or a capillary vessel of any kind, permeating their texture. They are as inorganic as the rock on which they are fixed, and yet we see that the animals do grow for a long period, increase in bulk, and by their multitudinous abundance, particularly in the southern hemisphere, pave the bottom of the South Seas.

But to proceed more minutely into the examination of the skeletons of these polypiferous animals—these zoophytes. We see at once the very obvious distinction which was early made by anatomists, of those which have a horny texture, and those which have an earthy axis; the one group was called *keratophytes*, and the other *lithophytes*, Greek names, expressive of the horny state of the one, and the stony nature of the other. Now, as we are ascending to man, we shall take that group which leads us lowest down in the skeleton of these zoophytes—the horny division.

These horny skeletons are composed of a highly condensed gluten or hardened albumen, and are sometimes placed on the exterior of the fleshy substance of the animals, as they are in the specimen I hold in my hand—the *campanularia* (*E* 1, *a* 2*). It is the same with many of the cellariæ, with all the sertulariæ, plumulariæ, antennulariæ, and others which are the chief zoophytes that inhabit our latitudes of the ocean. In all parts of our coast, you will find the marine plants and animals that have lain some time at the bottom of the sea to become covered with soft, flexible, beautifully-ramified animals, like these before you. All these are from our own coast. Now the skeleton in some of these horny species is so soft and flexible, that you would scarcely consider it at first to be of a horny texture—it is more like filaments of a soft cartilaginous substance. That is particularly the case with the skeletons of the alcyonium and lobularia. Here are alcyonia just like plants, but the skeleton is so soft, that you perceive it gives no stability to the whole; it is flexible in the extreme—soft as the softest piece of leather. These specimens are from Margate; indeed there are myriads of them everywhere on our shores—cart-loads of them along the island of Sheppy in the Thames, so that you have every facility of becoming acquainted with them, and of ascertaining the truth of the many curious details to be laid before you regarding their anatomical structure, and their whole living economy.

In the skeleton of the alcyonium you find the substance soft and flexible, and in the form of fibres, anastomosing to form the boundaries of the cells or canals in which the polypi are lodged. This horny texture brings us therefore very close to the horny structure which we mentioned in the third group of the poriferous animals, that group which comprehends the officinal sponge, where the whole skeleton is composed of horny tubular spiculæ anastomosing with each other, and permeating which, throughout every fibre, there is formed but one canal. Now this is the nature of the soft filamentous skeleton of the alcyonium. This, however, is but a rare form of the skeleton in the class of zoophytes; it belongs to that small group which so much resembles plants, that even the distinguished Professor Lamouroux described some of them as plants, in his quarto work upon the plants of the sea. The horny flexible axis, however, placed on the surface of the body, is that which is most common in the polypiferous animals that abound on our own coast. Let us take, as an example, one which is extremely common—the *campanularia dichotoma*, so called because its cells (*E* 1, *b*) are formed like a bell, and its branches divide into two. You

perceive that it has very much the appearance of a plant, having a stem and branches, and having, before it was broken from the rock or the oyster-shell to which it adhered, spreading filaments like a root. There is no particle of vegetable matter however in its body. Now the animal you look upon is the living fleshy substance (*E* 2, †) contained within each portion of the horny ramified substance (*E* 1 *a*, 2*) which is here dried and spread out. You are looking upon a ramified horny tube (*E* 1, *a*), in all the interior of which was contained soft animated flesh which sought nourishment, and seized and digested its prey for its maintenance. When we take a portion of this branch, and examine it through a microscope, we can perceive that the horny substance covers even the fleshy filaments that form the bond of connexion between the animal and the rock (*E* 1, *c*),—all the horny transparent substance which in this magnified diagram covers the darker fleshy central portion you see developing in different parts of the surface into digestive sacs (*E* 1, *d*). I mentioned before that the fleshy part develops itself, in zoophytes, into sacs or polypi. They are called polypi, because they have numerous fect (*E* 1, *e*) around the mouths, by which they seize their prey and convey it into their mouths when they have brought it sufficiently near by vibrating their cilia.

All the horny substance which you see, is formed only by the living flesh, for if you remove the living flesh from the body of these animals, you will find the remaining portion—the skeletons—cannot form the flesh, but that the fleshy part will form the horny sheath, by exuding it on its surface. Here then the fleshy parts of the roots—the base of attachment—extend through horny tubes; and in proportion as the fleshy parts extend from the delicate terminal films which you may trace, they shoot out into this arborescent form which I now exhibit to you. This organ of attachment, like a root (*E* 1, *c*) insinuating itself into all the minutest interstices, as in the case of a plant, fixes itself into the rock. Thus, too, it has the means of securely extending itself greatly upwards from the rock. It extends the fleshy substance upwards, from its centre, which in the same manner exudes from its surface a liquid albuminous matter,—at first soft and transparent, but which after a short time becomes consolidated, and, in proportion to the time it remains, becomes more and more dense. This I have chiefly ascertained by watching the development and growth of the embryo.

But, as I have mentioned, this horny substance, when once exuded, no longer grows. You perceive that in the animal, the lower part of the stem of the body is thin, as it was when young, and that as it advances to maturity, the upper part of the stem gradually becomes thicker. Still there is a fleshy part extending through the extremely slender base of the stem; and through the whole of life, the vitality in this granular or cellular fleshy part, even of the roots, is retained.

This horny axis is, in many of these flexible horny species, divided by joints (*E* 1, *f*). These are partially represented in the sertulariæ and plumulariæ (*F* 3, *e e*), by parts like strictures surrounding the branches. In many of the more solid species of these animals, however, particularly of the *isis hippuris*, the jointed appearances are still more marked (*G* 1, *b*). The horny stem of this campanularia, contains a fleshy body, which increases till maturity, but not afterwards. The extreme points of the horny axis in every direction are soft, and not at all of the same dense character with the parts towards the middle and the base. It is by this softness of all the free terminations that the whole internal fleshy substance is enabled to extend itself, and to give rise to those terminal developments, or polypi, which are necessary for its nourishment and its habits. Observe, then, it has risen at its commencement, and for some time, from the root, with nothing but a root and a stem. There was not a cell at first for a polypus. After a certain time's growth, during which you will remember there was no polypus, the cell (*E* 1, *g*), and at length the polypus (*E* 1, *h*), are formed, and thus it arrives at maturity, when it displays great activity in seizing its prey, and rapidly devouring it (*E* 1, *i i i*, *F* 3, *c d*), as you observe represented in the drawings. It was conceived that those sacs called polypi had some kind of independent existence,—that they were so many animalcules or minute worms distributed over the surface, and which, by some extraordinary simultaneous action, had their solid and horny edifices constructed on a regular plan. This, though absurd, was long believed, from the high degree of vitality possessed by the digestive sacs or polypi.

Now the horny substance develops or expands when yet soft, and forms these campanulate cells. The cells in the horny substance vary in their form in each species of these zoophytes, and, in a zoological point of view, this is of great importance, because many of these animals are so much alike, that the naturalist has a difficulty in explaining in what they really are different. They may agree in their

mode of ramification, the form of their root, and so forth, and yet be of different species. The microscope must be used to see the shape of the cells which serve to protect the polypi. These cells are sometimes sessile, that is to say, are fixed closely to the side of the branches. Sometimes they are placed in a row on each side of the branches; that is the case with this sertularia. The two which I at present show you, agree extraordinarily in their outward form, and unless we employed the microscope to examine the cells, we could scarcely see whether there was any difference or not. The cells here are disposed all along the sides of the branches; sometimes they are disposed only on one side of the branches, and that is the case with the plumulariæ. Sometimes the cells are placed at the extremities of little peduncles—little cups, as you see in the campanularia. This represents one of the cells in the zoophyte, very much enlarged, and shows you the relation which the fleshy substance of the polypus has to the horny cup which is formed to embrace and protect it when it has retired, alarmed (*E* 1, *k*) by some object floating in the water impinging against its expanded arms. Here is the fleshy sac of the polypus with only one orifice, and the arms around the mouth of the sac, from which it has received the name of *polypus — many feet* — a term that was originally employed even for the cephalopods. When you magnify very much the arms of the polypi, you see by what means those currents are produced, which you can observe with the naked eye rushing towards the mouth of the polypus. These animals are fixed, as this specimen is to the back of the shell, growing like a living plant, and yet it must have living prey for its subsistence—it must have its spontaneously-moving gemmules to propagate its race—its skeleton to protect it. When you apply the microscope to the sides of the arms, you see the little hair-like filaments, by the rapid vibration of which, the currents, conveying particles floating in the water, and the animalcules which swarm in every drop, to the mouth of the polypus (*E* 1, *i*). *All* they do not swallow, but only according to their particular taste,—every drop of the vast abyss, teeming with minute living beings, which are used as food for the various organizations which they are formed to support.

Now these minute filaments along the margins of the arms, which produce the currents, are the cilia. The currents are not produced by the arms themselves of the polypi, as generally supposed, but by the cilia that are disposed on the sides of the arms. The polypi are sometimes large, as you see in this *tubularia*, where they have died fully expanded.

There is another part of the skeleton which is interesting in the soft flexible species of which I am speaking; it is the part denominated the vesicles (*E* 1, *l*, *l*, *l*). These make their appearance in different parts of the skeleton in each species. They are constant in their position and form in each species, and peculiar to each species, so that the form of the vesicle which is destined to contain the reproductive gemmules, affords the zoologist a further means of distinguishing the species, and therefore you will find that our distinguished countryman Ellis has been careful, on all occasions, to figure and describe the vesicles, for the purpose of distinguishing the species. These vesicles make their appearance at certain periods of the year—generally early in the spring. Here is a fine specimen of the *plumularia falcata* (*F*), in which the vesicles (*F* 1, 2, 3, *a*) have been preserved in connexion with the skeleton, and precisely at the time when the gemmules (*F* 2, 3) were developed.

F

I wish to direct your attention to those parts of the skeleton which are *deciduous* (*F* 4, *a*). As these animals so much resemble plants, and have parts containing the gemmules which thus make their appearance at stated periods of the year, and which afterwards drop off, so as to leave no trace of themselves behind during the winter,—this tended still more in the olden times to induce the belief that these zoophytes were really fruit-bearing plants; and Ray, a distinguished botanist, described them as plants. The appearance of these vesicles, filled with gemmules, had very much of the aspect of seeds (*E* 1, *m m*. *F* 2, *b* 3 *a*), which were presumed to be dropped off to perpetuate the species.

Now there is a point of some importance on account of the difference of opinion

that prevails upon it, even at the present moment, amongst eminent writers; I allude to the connexion existing between the polypi and the skeleton. Some are of opinion that these corals are bodies exuded by numerous separate and detached beings, while others believe that these, like trees, are so many different branches of one individual. Some think of our own bodies, that our soft parts are all composed of different living atoms. It is not the general opinion, however, that every globule of our own body is a distinct and independent being, however it might have been a separate being before it came to form this aggregate; but that is not the subject of dispute. These animals being thoroughly examined, then, you will come to the conclusion that the coral which I now show you, is as much a single skeleton of one fleshy body, as is the skeleton of our own body, or of the higher animals.

Perhaps it would be best to ascertain this by watching the formation and growth from the embryo state. If the polypus was first formed, and secreted for itself a skeleton,—if that polypus produced another polypus, which happened to stick near to the former, and to build up another skeleton,—then if that again generated another polypus, which went out and constructed another skeleton—if this were the case, then indeed would these be extraordinary aggregates of independent beings, and then it would be an interesting inquiry as to how it is that minute beings of this independent and isolated description, without eyes, or any organs of sense, or any nervous filament in their body, come to construct a substance with such perfect symmetry as you now see;— how the little polypus at the bottom knew how to apportion its work with the polypi that were working at the almost invisible filaments which you observe in this gorgonia at the other remote extremities. *A priori*, the probability is greater that they form parts of one whole.

Upon taking one of these reproductive gemmules contained in the vesicles of the *flustra carbesia* (*H* 1, p. 235), and of the *plumularia falcata* (*F*), and watching the production of the skeleton from that gemmule, I have found that the skeleton begins to form before a polypus is in existence. What I now show you is a magnified view of the specimen of plumularia falcata. Hand it round the class. This is the vesicle (*F* 1, *a*); the gemmule has not yet appeared, but I shall have to examine these more particularly hereafter. In this specimen these reproductive gelatinous substances, the reproductive gemmules, have come to maturity, and are now escaped (*F* 4, *b*). Here are the gemmules swimming about by vibrating their cilia. Now it is interesting to watch the result of these gemmules swimming about in the sea by a rapid action of the hair-like processes which surround them. In this specimen, beginning to be developed, as yet there is no ramification—no plant-like appearance. Here it is fixed, and beginning to spread upon the surface of a watch-glass, so that by the use of the microscope you can see, atom by atom, the changes that are produced in the progress of the growth. Here again, when farther advanced, there is the fleshy substance accumulating upon certain parts which at first are transparent, and a thin homogeneous substance is beginning to form the skeleton in the interstices. As yet it is exceedingly minute, soft, and gelatinous; but in the progress of its growth, the soft, thin, homogeneous substance of the exterior becomes more dense, embracing the first-formed parts of the fleshy substance, indeed all parts, and the whole jelly, with its thin covering, and continues to advance and to radiate. Then we observe a stem beginning to rise from the centre of these radii of roots, which are, in fact, the first-formed parts that the little round gemmule shoots out. So that the gemmule is become, not a polypus but a root. It begins then to rise from the centre of the roots, and at length to divide; so it will at length form on its branches a cell, at the bottom of which cell will gradually be developed a polypus. The polypus then is not the being that was first formed, and which, after its formation, produced the skeleton; yet you will find how very prevailing the opinion is, that the polypi are the first-formed parts of zoophytes, and that they secrete or somehow form for themselves the enveloping cells and the whole structure of the skeleton.

So much then upon that point. I think we have not leisure in this anatomical part of the course to enter into what relates to the zoological description of the myriads of forms belonging to this group, but what I have mentioned will give you an idea of the form and growth of the *external* horny tubular skeletons in the various species of flexible zoophytes so common on the British coast.

The horny skeleton also is frequently *internal*, and that produces a skeleton of a very different kind. These sertulariæ, &c. which I show you, brought from the coast of Sheppy, have all their skeletons at their *outer* surface; they are so many horny ramifying tubes enclosing the fleshy substances. Many other specimens of the same kind you have before you. In many of these animals, however, the skeleton which is of a horny consistence, is placed

in the interior of the fleshy substance. This is the case with the *gorgonia*, which I hold in my hand. It is the case with these antipathes, from which all the very soft fleshy substance, and every trace of it in these specimens, has disappeared. In the gorgonia, however, we have a more intelligible and more common example, more easily understood in commencing the study of the *internal* horny skeletons of zoophytes. Here you will observe, that it still presents very much the appearance of a plant with the simple expanded base of attachment, like that of many marine plants. The base of attachment of marine plants is not the organ by which nutrition is imbibed, or by which the functions of life are performed. You will see fuci (as the fucus filum) twenty feet in length, with only a small cup-like attachment to some rock, but that cup-like part is merely the organ of attachment, as it is in zoophytes. Now this horny axis of the gorgonia is surrounded, in the living state, with an irritable flesh, which fleshy substance covers every part of the horny texture, from the extremity of the root to the extreme points of the most delicate ramifications at the other end. This fleshy substance develops itself, at innumerable points, into the little cup-like appearances we have already seen termed the polypi. So that if the whole fleshy substance were removed from the branches, you would have no trace of cells left on their surface, for the fleshy substance thus removed is that which contained the polypi. This horny substance is deposited layer after layer by the enveloping fleshy crust, so that the first part deposited undergoes no change in after life. Upon making a section of the antipathes or gorgonia, you can perceive the concentric layers in which the horny substance has been exuded during the life of the animal. The fleshy crust which I now show you, was cut off from the living zoophyte by Cavolini in the Bay of Naples. He took it out into the Bay, and sunk it in perforated earthen vessels in a grotto at some distance out from the shore, for the purpose of watching what was to take place. By observation he found that this fleshy crust exuded for itself, after being carefully peeled off, a new central horny axis, but that when the axis had been thus deprived of its fleshy crust, it did not exude a new fleshy substance on its surface. There is no internal organization in the horny axis; it is as dead and extravascular in this part of it, as the rock upon which it is found growing, or as the solid corals and shells of other invertebrated animals.

This fleshy substance has all disappeared from this dried gorgonia, so far as evaporation could cause it to disappear, and yet you will observe that the whole nearly of the horny axis is covered with a crust of a beautiful colour, sometimes of a deep red, sometimes of a crimson, sometimes of a bright yellow; and altogether presenting in the different species a great variety of beautiful hues. These colours are dependent upon some peculiar colouring animal matter that was contained in the substance of the fleshy crust itself, and has nothing to do with the horny axis, which is brownish black. The horny axis appears of a black colour, but when cut into small portions, it has that brown appearance which presents itself in slices of most condensed glutinous or horny substances.

When we have cut into the fleshy crust, we find it is permeated in all its parts by calcareous spiculæ. Now it is a curious circumstance this, because you will observe that the animals we were describing yesterday (the porifera), had nothing for their skeleton but spiculæ, and that a great division of those had only calcareous skeletons, composed, in this way, of calcareous spiculæ; such was the case with the group called leuconida. Here, then, we have calcareous spiculæ, not forming the entire central axis, but which have not yet disappeared. They still exist in the fleshy substance, but where did they exist in the animals we were considering yesterday? In them all parts of the fleshy body develop the spiculæ. We found them depositing everywhere in their interior, spiculæ. That was the case with all the animals we were speaking of yesterday, whether horny, calcareous, or siliceous, and which had not yet been able to form a solid internal continuous axis. If the distinct dried crust which you now see covering this horny axis of the gorgonia, or the isis, were examined minutely in the living state, you would find that all this coloured calcareous dried crust is perforated by myriads of minute orifices. These minute orifices, still preserved in the dried specimens, are the remnants of the cells of the fleshy substance from which the polypi shoot out in the living state. It is, therefore, impossible to find cells on looking at the internal concealed horny axis, when you have removed the fleshy irritable crust which always forms both the cells and their contained polypi.

You look now upon the skeleton of the antipathes. In the antipathes the fleshy substance which envelops and forms the skeleton is soft and gelatinous, insomuch, that when it is brought from the depths of the sea—torn from the rocks to which it adheres—that substance runs off almost

entirely, so that we never see a crust of it in the dried specimens of antipathes brought to Europe. In these specimens all has run off, and the axis, thus cleaned, presents a smooth and glistening surface; but when we examine that axis chemically or otherwise, we find it the same as in the gorgonia. Zoologists, however, attend to the circumstance that the gorgonia has on its surface a longitudinally striated appearance, while antipathes is smooth; but these are differences that we cannot enter much into at present, as they belong more to another part of the course, which treats of the history of species. This, however, will give you some general idea of the internal structure and nature of the horny, unorganised, internal axis, which is found in many of the largest forms of the horny zoophytes, or *keratophytes*.

Now with regard to the calcareous skeletons of zoophytes, we find these presenting a greater variety of forms than either the external or the internal horny species. In some the calcareous skeleton is placed completely in the interior of the fleshy substance, as in the pennatula; most frequently, however, it is found exposed on some part of the surface, exuded from below from the side, or in various directions. In the animals denominated pennatula and virgularia which are now before you, you have examples of calcareous substances placed completely within the fleshy substance of the body. The pennatula is an animal formed somewhat like a pen, with its quill and its barbs, and which has the fleshy substance covering the whole exterior of the body. Along the central part there is a thin calcareous solid cylindrical body, tapering at each extremity, where it is soft and flexible, but dense and thicker in the middle. This calcareous axis requires to be soft and flexible at the two extremities, because of the contractile power of the whole animal. If it were not formed in this way, it would force the ends of its axis through the body. It is curious, that in the virgularia the solid cylindrical axis does extend beyond the extremity, at the lower part of the body. You may lay it down as a general principle applicable to all forms of skeletons of the zoophytes and poriferous animals, that whether they be made of silica or carbonate of lime, or carbonate and phosphate of lime, for there is a little of the phosphate according to the researches of HATCHETT in all these calcareous corals before you, or whether they be formed of horny substance, their materials were formed solely by the fleshy substance, and these exude from or into the body, in the unorganised condition of all invertebrated skeletons. If you were not aware of this being the general law, you might be perplexed to account for the growth of this axis of the virgularia, which was originally formed entirely within the fleshy covering, and is now seen extending much beyond the extremity of the fleshy substance. In fact, the animal, from all we know of its living habits, stands upright, with this exposed projecting part stuck into the mud at the bottom of the sea. That is the position in which mariners generally collect them near Inch Keith in the Firth of Forth, and this is further shown to be its natural position, from the growth of foreign bodies on the exposed and fixed part of the stem.

On the lower surface of the pennatula we find numerous calcareous spiculæ directed from the stem, which serve the animal, in its progressive motion, to creep slowly over the bottom of the sea. The central axis of which I was speaking, both in the pennatula and virgularia, is a solid calcareous mass, cylindrical, containing a large quantity of animal matter, particularly at the extremities, where, in the former genus, it is exceedingly flexible and slender, and it is composed of concentric layers. The same structure is found also in the umbellularia. By far the greater number, however, of the calcareous skeletons of zoophytes are exuded from the outer surface of the body, so as to be more prominent than the living flesh. Generally, the fleshy part of the animal, as in this *fungia agariciformis*, is upon the upper part; sometimes it embraces the whole, when it is branched, as in this large madrepore. You will observe, however, that if there be a point of the skeleton which is not surrounded by the living flesh, that point, which is the base of attachment, may be almost united to the rock upon which it rests, and identified with it, if it rests upon any solid rock, as on carbonate of lime. The transition may be almost imperceptible from the skeleton of the living being to the rock on which it rests, for both are equally unorganised bodies. Now, then, I can fancy a transition from the internal to the external skeletons, by supposing that a virgularia were cut open, and allowed, thus opened and spread out, to go on. In place of its skeleton being in the centre, it will exude below its fleshy substance a calcareous spreading mass, like a *fungia limacina*. Well, then, the fleshy substance is the animal, in the zoophyte; and this large mass of meandrina, upon which my hand rests, forms thus, from an early period of the development of its gemmule; it is called the *meandrina cerebriformis*, and is somewhat like the convolutions of the human brain on its surface.

In this meandrina, the form was precisely the same, though not the bulk, from an early period of its life. It had this globular appearance, this beautiful meandering surface, and all these delicate laminæ that run transversely through the meandering grooves, from a very early period. Upon looking down on the surface of these meandrinæ, however, you can distinctly perceive that these depressions extend but a very short way into the mass. No capillary or absorbent, or other vessel, penetrates the solid mass, to remove the old layers, and to build up the new. Upon breaking the mass, however, and watching the direction taken by the more solid parts projecting from the surface-like ridges, you can see that they extend to the very central nucleus of the base; that it begins to build this skeleton at the commencement of its development, precisely upon the plan which is observed in the construction throughout life, covering over the whole round surface with a fleshy secreting substance. If you cut away the fleshy substance, there is necessarily an end of all growth at the denuded part, and any part that may thus remain denuded, will gradually be affected by the tide, or by the action of the waves; and the rubbing of the sands, gravel, &c., will wear it to fragments, as you observe here on some places, and the rest, that remains covered by the fleshy substance, will continue to grow in the usual form, or the fleshy substance will gradually spread and cover the wound.

We see, upon examining the fractured portions, how it has been gradually kept in the same precise plan, without the fleshy substance permeating the whole cellular interior of the mass. The fleshy substance which covered the exterior of the body in all these meandrinæ, and similar calcareous zoophytes, developed polypi. Although those polypi are not necessary to the growth of the zoophytes in the embryo condition, by their seizing living prey, they are additional organs by which the animal acquires support during its more perfect state of development, just like the leaves of a developed plant. Those polypi are destined to seize the minutest animals, which are floating in myriads in every part of the sea. The polypi, which are sometimes deciduous, as in flustræ, enable them to grow more rapidly, and to extend more quickly their dimensions. The pavoniæ are covered in the same way with fleshy substance, which can shrink, as in all similar structures, between the plates; that fleshy substance developing also, as usual, the polypi. In many you see, consequently, no cell left in the hard skeleton for the polypus to shrink into—this is the same case as with the meandrina; but in others, as in this caryophyllia, you will observe that the solid axis, composed partly of the phosphate, but principally of the carbonate, of lime, as shown by the experiments of Hatchett—(and I am sorry to say that since his time very little appears to have been ascertained upon this part of the subject)—you will observe that this ramified solid mass has developed itself, at various points, into large distinct cells; which cells served for the protection of the polypi, as the smaller cells of astreæ, madrepores, porites, &c.

You will perhaps be surprised to find, in a living animal, that its base is thus dead, and denuded of its fleshy covering, and that it is alive still at its upper part. But if you reflect that the point of attachment in these calcareous masses is always uncovered by the living fleshy substance, —that it is fixed to the rock—that the extravascular calcareous matter has been exuded into the interstices of the rock and taken a firm hold of it—that all the rest is covered by the fleshy substance, and that it may shrink, may retire from the calcareous mass, or the skeleton may shut up in various directions that fleshy substance, then your astonishment ceases. Here, then, in this large caryophyllia there was obviously no fleshy substance at the base; at the time it was taken from the sea, it terminated near to the base: and here are millepores astreæ, and other animals, which have collected around and grown upon the dead portion of the stem, but you distinctly observe the cells on the parts above this, which were covered with flesh.

Where you observe no cells on the solid skeleton, as in the coral (*G* 4, *a*) and the isis (*G* 1, *a*), you will understand that that is in consequence of the cells for the polypi having been entirely contained in the fleshy substance (*G* 2, *b* 3), which, in drying the specimen, is removed from the solid body. In the explanaria, where the calcareous mass is expanded in the form of plates, you will very generally find the cells spread over one surface, which, in the natural position, is generally the lower, and deficient on the opposite. Nothing could equal the beauty of these animals in the living state. To witness in a pool of clear sea-water, or on ridges of rock in the open and transparent sea, the beautiful little polypi projecting from the surface of this mass, with their little arms extended in all directions, creating rapid currents towards their mouths by vibrating their cilia, and thus bringing animalcules like bee-hives around them, and then shrinking, after they have seized their

prey, each into its cell, as I have attempted to represent in these drawings, must be a spectacle indeed gratifying in the extreme to every beholder sensible of the beauties of animated nature. In one of these drawings, one of the polypi is represented as busy in getting itself expanded out; another is busy in creating the rapid currents, and anxious to obtain its animalcules, bending itself in every direction. Here is one that has seized an animalcule, and has shrunk into its cell. Here is one supposed to be irritated, having an animalcule in its stomach, and shrunk to the bottom of its cell; but these polypi are all continuous with, and only developed parts of, the fleshy substance.

In the madrepores the cells are extremely numerous and small over the whole surface of the branches, and present the beautiful appearance which they do, from their laminated parietes being extended outwardly. They have a beautiful laminated structure around the margin of each orifice, which you can scarcely see without a magnifying power. Indeed, all the lowest tribes of animals have forms so delicate, that the most powerful glass will not extend to their minutest parts; and I may say of the lowest of them, that there is no living object constructed by the Author of nature which will not stand the utmost powers of human scrutiny, without diminishing our admiration of the beauty of its structure.

Here is a form which I exhibit only to give you a further illustration of the same principles. No doubt you are all familiar with these common fungiæ of the zoologists. This is the *fungia agariciformis*. This animal, fixed at the bottom of the sea, was covered in the living state with a fleshy substance; that fleshy substance was transparent, like the mantle of a medusa, it was divided below into laminæ, which shrunk into the numerous radiating interstices of this calcareous laminated mass. In the central part you will perceive a depression. The fleshy substance of the body at this part shot up into the form of a large polypus; and in this large round fungia there was but one polypus. Here is another, *fungia limacina*, long and convex like a snail. Here in place of one central depression, you will perceive a middle longitudinal groove, extending to nearly the extremities. In the central part of this species, as in the first, there was a large central polypus like an actinia. Along its sides were developed two or three more in the middle groove; and they became less and less perfectly developed as they got towards the two extremities; the whole, however, was covered with this fleshy substance, except the rough papillated base of attachment. The *red coral (G 4)*, which forms so beautiful and valuable an article in an ornamental point of view, presents no cells on the surface, and is very solid within. The fleshy substance *(G 1, c)* covered all the exterior, as in the antipathes (which is the common black coral), as in the gorgonia, and many other horny species. Here the red colour of the coral has been owing, perhaps, to the presence of some peculiar animal matter, as it is driven off, and all corals are made white, by burning; but I am not aware that the colouring matter of the red corals has been chemically further examined. In the larger deep red masses you can perceive the striated surface *(G 4, a)*, as in gorgonia, where it was covered, over the whole surface, by a living fleshy crust. The interior of this red coral is so dense and compact that it is susceptible of a fine polish, and is cut into various ornamental articles. It forms a valuable article of commerce, and is collected by dredges in different parts of the Mediterranean and the eastern seas. It contains phosphate along with the carbonate of lime.

G

Besides the white, red, and black corals, some of these skeletons have naturally a yellow colour, as this virgularia; and some are blue, as this *pocillopora cærulea*. You perceive on breaking this pocillopora that it presents internally a beautiful deep azure blue colour. You might suppose that to be the result of some putrefaction but it is not so; it is the natural colour of this beautiful production in its living state. Here is the *tubipora musica*, again, of a beautiful deep blood-red, approaching to a purple colour, composed of tubes, which you know to be the protecting places of the polypi. In all these tubes the polypi are found, and have been accurately described by two eminent French writers, QUOY and GAIMARD, who have examined them alive in the tropical seas. Nothing can exceed the beauty of these animals in their living state, where the green colour of the polypi contrasts with the deep-red of the tubes.

The last form which I shall detain you with is that of the *isis hippuris (G 2)*. In this isis you perceive an extraordinary example of an internal articulated skeleton, composed of solid calcareous portions *(G 1, a)*, a description which you would almost apply to the human skeleton. The whole of this jointed isis was covered originally with a fleshy irritable substance of great thickness *(G 1, c 2, a 3)*. The great thickness of the fleshy substance which covered the whole surface of the skeleton, and which developed polypi and their soft cells at various points, you will judge of from these magnified views, given by Ellis and by Goldfuss.

Here, then, is a skeleton of a zoophyte, raised high in the scale, with complicated polypi, and with a large and irritable fleshy body, presenting a completely internal jointed calcareous skeleton, yet extravascular, and as inorganic as the rock upon which this substance grew in the living state. Not a single capillary vessel penetrates or enters into it. It is deposited layer after layer on its solid joints, as on the solid joints of crinoidea and echinida, or like the shell of a molluscous animal, and even the horny joints *(G 1, b)* grow in that way, the exterior surface being entirely covered with animated flesh, which produces polypi, having eight tentacula.

Now you have already seen, that skeletons of zoophytes are composed sometimes of horny substances, and sometimes of calcareous, but here, in the isis, these substances are placed alternately on the branches. Upon making a section of the horny substance, which you perceive like ligaments connecting the calcareous joints, you will find it also is composed of concentric layers, like the solid parts of the skeleton, and that the whole of this grows in the same way as the external skeletons of other species, by deposition, layer after layer, of the cartilaginous substance.

We have seen that the tubular external horny skeleton of the plumularia *(F)* and similar zoophytes, is gradually developed from the gemmule by the exudation on its surface of a thin homogeneous fluid substance, which soon hardens, and which does not change its dimensions after becoming once hardened. This glutinous substance is, consequently, only a thin soft film over the free terminations of all the roots and branches of the growing animal, and is thus easily pushed forward, or made to assume any form, by the expanding internal fleshy matter as it advances in every direction to complete the adult form of the animal. The vesicles for containing the gemmules seem also to be annually pushed out from soft points of the branches, or from joints, which so generally divide the branches of these flexible tubular species. The operculum *(F 1, c 3 b)* of the vesicle which drops off to allow the mature gemmules to escape, may be considered as only a thickened portion of the vesicle, and formed in the same manner. The figures which I place before you are highly magnified views of what I have observed of the development and falling-off of the vesicles of the *plumularia falcata*. In the one you will observe there is yet nothing but a thin gelatinous matter, and the parietes of the vesicle are still soft and expanding *(F 1)*. In the second, the two gemmules, attached to their umbilical chords *(F 2, b)*, are developing, and shooting upwards from the fleshy substance which fills every portion of the interior of the whole ramified skeleton. The third figure represents the condition of the vesicle and its contained gemmules, which lost their umbilical attachments to the parent animal *(F 3)* at the time when the operculum loosened and fell off. And the last view represents the dropping off of the whole vesicle of this plumularia, when its source of nutrition is cut off *(F 4, a)*, and when the mature gemmules have escaped from its open cavity, and are swimming about by the rapid vibration of their cilia, in search of a suitable place to fix themselves upon for future growth. When the gemmule has fixed, it first forms a root, then a stem, then branches and cells, and at length polypi, as I mentioned to you before.

Those cellular, calcareous, ramified, and foliaceous zoophytes, forming the various flustræ, and escharæ, and cellariæ, and reteporæ, and celleporæ, have the hard parts almost entirely embedded in the fleshy substance, and all around their free and growing margins they are thin, transparent, soft, and gelatinous. The cells are formed of their full dimensions at first *(H 2, 3)*, as in other calcareous and more solid zoophytes, and do not enlarge after they are once formed, but only strengthen and consolidate their walls. In these, as in other forms of this class, the polypus never produces its cell, but the cell when nearly completed, begins to develop a polypus at its proximate extremity. This I have carefully watched during the development of the gemmules of flustræ, and the magnified figures before you represent the appearances I have observed during the deve-

opment of a cell (*I*) from the gemmule of a *flustra carbenia* (*H* 1). The yellow, ovoidal

H

gelatinous gemmule contains at first no perceptible calcareous particle, and swims freely through the water by the action of the little vibratile cilia which cover its surface. When it fixes on a watch-glass, and begins to spread as a flat expanded film of transparent jelly, it secretes opaque white particles of calcareous matter which form the outline of an entire cell. The walls of the cell become more defined and stronger, and minute spiculæ begin to shoot inwards from their margin. The rudiment of a polypus appears at the bottom of the cell which has yet no orifice (*H* 2). The membrane enveloping the embryo polypus rises tapering upwards to near the upper end of the cell, and an orifice is formed (*H* 3) to allow the young polypus to feel the influence of the surrounding element.

I

The aperture, and all the delicate structure of the cell completed, and the polypus having its twenty-two tentacula (*I d*), and their cilia formed, and the muscular filaments which connect it with the orifice and the base of the cell, sufficiently developed, we find this singularly complicated organ (the polypus) busied in search of prey, and respiring, by means of its cilia, the medium in which it lives. Before this period of the development of the gemmule, however, we observe the margin of the first-formed cell radiating outwards in different directions to form parts of surrounding cells (*H* 3). The transparent gelatinous margin of the gemmule continues always to extend beyond the extreme visible terminations of these radiating calcareous lines which form parts of new and commencing cells. Soon after the polypus is sufficiently developed to extend from the cell in quest of prey, we observe its cœcal appendix projecting from the left side of its alimentary canal, perhaps the first rudiment of a liver in the animal kingdom (*I b*).

Such appears to be the general mode of development of the fleshy substance, and of the skeleton, before the first appearance of the polypi in the animals of this vast and interesting class; and their plant-like skeletons, however massive or ramified, are as much the organs of support of one individual being, as the shell of a gasteropod, or the skeleton of the human body. We pass by beautiful gradations, from the horny *porifera* through the soft *alcyonia*, where the pores are developed into polypi, through the various flexible and solid zoophytes, to the complex corticiferous species, as the *isis*, which lead us to the fixed ramified and jointed family of crinoidea among the echinoderma. The *caryophilliæ* and *oculinæ* lead to the *actiniæ*, and the massive fungiæ to the delicate *porpitæ* and *velellæ* among the acalepha. Many zoophytes, as the hydra and zoanthus, are entirely destitute of a skeleton, by which they have greater flexibility, more extensive motion, and more numerous impressions from surrounding objects. Where the ramifications of the skeletons are numerous, long, and delicate, and exposed to the incessant agitations of the sea, it is obvious that to withstand the shocks they must be flexible or yielding, either by having a large proportion of animal matter, as in the ramified calcareous leaves of *flustræ* and *cellariæ*, or by being composed of a horny flexible substance, as in *sertulariæ* and *gorgoniæ*, or by having their solid parts divided into numerous moveable joints as in the *isis*. Where the branches, however, are short, or the skeleton is sessile, and the polypi are organised for larger prey, the solid support cannot be too strong and unyielding, and hence the massive forms of *madreporæ*, *meandrinæ*, *astrææ*, *caryophylliæ*, and all the larger lithophytes. But although we can perceive how beautifully all this is arranged, we cannot discover any peculiarity in the fleshy crust

of the *coral*, by which it is adapted to secrete its elegant purple ramifications of solid lime, while the fleshy crust of the *gorgonia* and *antipathes* secretes an elastic horny axis; nor can we discover by what peculiarity of structure the thick fleshy crust of the *isis* is enabled to secrete, at regular and alternate distances, substances so different as its horny and calcareous joints. Thus, though we can interpret nature to a certain extent, and derive infinite gratification from the constant discovery of new beauties in her works, we can never hope, by entirely revealing her secrets, to deprive future generations of the same source of pleasure and stimulus to active inquiry; indeed, the march of physical science is only the discovery of new, unexplored, and endless regions of research, which would go on progressively increasing were man to live to eternity.

To-morrow I shall proceed to the skeletons of the next classes, the acalepha and the echinoderma.

LECTURES ON SURGERY,

BY

MR. WARDROP.

THE DISEASES OF THE SANGUINEOUS SYSTEM.

Of the Abstraction of Blood.—General Observations on the Utility of Bleeding.—Difference in the Effects of abstracting Arterial and Venous Blood.—Of a local Abstraction of Blood.—Effects of Bleeding from Incisions made in inflamed Parts.—Spontaneous Bleedings from Wounds—Local Bleeding, and when to be employed.

On the Abstraction of Blood.

The abstraction of blood from the body is one of the most powerful of therapeutic means. I shall therefore make no apology for directing your attention in a particular manner to this subject, being persuaded that if it be now fully explained, much repetition of particular diseases will be saved. At the same time I will endeavour to point out some general rules as regards the symptoms which indicate the propriety of bleeding, the quantity of blood which ought to be taken, and the comparative advantages of each mode of abstracting blood, which I hope you will find useful in the practice of your profession.

I may remark, that the observations which I am about to make on this subject are to be considered chiefly as the result of my own experience in a great variety of diseases amongst the different classes of society; for you should be aware, that diseases assume an almost infinite variety of form amongst different ranks of the community. This ought always to caution you against attempting to draw general conclusions from examples of diseases which occur only amongst a particular class of persons. Those who may have been in the habit of seeing diseases chiefly amongst the peasantry, or in the army, or in the navy, will be much struck with the various shades which the same complaints present in this metropolis, where you will meet with patients whose constitutions have suffered from indulgence in all the vices, and from all the mental excitement to which man is exposed amid this vast concourse of human beings.

A more fit opportunity may not, perhaps, occur than the present, to impress on your minds the importance of carefully watching the effects of the same remedy in different examples of the same disease, and to point out to you in what manner diseases are modified by the various circumstances and relations of each individual case.

No two examples of disease are ever met with which are precisely the same in all respects, and though they may resemble each other in many essential points, still they will be found to differ in every individual, either according to the period which the disease has existed, the age, the sex, the temperament of the patient, or according to some other circumstance which demands consideration in the treatment, and which ought more or less to modify that treatment. This observation applies in a particular manner to those diseases, for which medicine possesses what is usually called a "specific" remedy. In treating all these diseases, everything depends on the state of general health in the individual before such specific medicines are administered. From want of this care how often do we hear of the different preparations of mercury, bark, and iron, disagreeing with particular patients! In almost every instance this will be found to arise from the alimentary canal being in a deranged state, which state ought to have been corrected previous to administering the specific remedy. The most useful medicines often fall into disrepute from want of such attention, whilst in other instances the dose must be changed, as well as the form of administering it. I do not mean to affirm that there are no individuals with whom particular medicines disagree. On the contrary,

there are persons in whom bark, mercury, iron, and even milder drugs, have a decidedly pernicious effect. Such instances, however, are only to be considered as exceptions.

Diseases, I have already remarked, assume an infinite variety of character, not only in persons of different ages and constitutions, but also in people living in different districts of a country, and in different ranks of society. The limited observations, therefore, which are made on the treatment of patients in the wards of an hospital, have often had, from persons who have afterwards applied them to other classes of the community, the imputation of being incorrect. I have often heard medical men, whose practice has been confined to a particular class of persons, such as soldiers or sailors, and who have acquired great expertness and skill in treating that particular class—I have often heard such practitioners remark, how different were the plans which they found it necessary to pursue when they were called on to treat the diseases of other classes of individuals, particularly those of women and children, and such of the poor as are habituated to intemperance, and acquire artificial habits of life.

I cannot dwell too strongly on the importance of this subject, as I think it may be distinctly traced that many errors in the treatment of diseases, have arisen from one set of practitioners being accustomed to act with greater energy than is necessary, and following indiscriminately a particular system, and another set who, from seldom seeing the more violent forms of disease, practise with temerity and indecision.

These observations, while they may be applied to the use of any remedy, are yet particularly applicable to that now under consideration, as there is no means more generally used, and more decided in its effects, than the abstraction of blood, and yet there is no point on which you will find greater diversity of opinion as regards the circumstances and extent to which it should be employed. The practical errors to which I have now alluded, can only be corrected by a nice discrimination in individual cases, and the power of thus discriminating can only be acquired by being in the constant observation of diseases amongst all classes of the community, and seeing every description of disorder, more especially at an early period of the practitioner's life,—when the perceptive powers are most acute, and the mind has not yet been fettered by theoretical and hypothetical doctrines. Such a habit of observing diseases in the living body, and also a familiar acquaintance with the appearances of diseased structure, will lead certainly to a comprehensive knowledge of medicine, and to a quick discrimination of the peculiarities of each individual case. The art of diagnostics, whilst it is indeed the most difficult, is certainly the most essential branch of pathology.

Differences in the Effects of abstracting Arterial and Venous Blood.

The abstraction of blood is employed as a remedial means, either for the purpose of diminishing the action of the heart and arteries in inflammatory diseases, or for the removal of a surplus quantity of the sanguineous fluid, whether venous or arterial, in particular organs wherein there is what has been called "plethora," or a congestion of that fluid. A quantity of blood may also be abstracted in some diseases where the qualities of the body have become changed; but whatever explanation may be given of the effects of bloodletting, there is no doubt of its multiplied results in the treatment of disease, whether the fluid be removed from the system by art, or by a "spontaneous hemorrhage."

Blood may be abstracted either from the *venous* or from the *arterial system*, but I am not aware, that much attention has been paid to distinguish the difference of the effects which are produced on the system, by taking blood from an artery and from a vein, though it can readily be conceived that such difference may be considerable. The chief reason which is usually given for opening arteries in preference to veins, has been that the blood may be obtained more directly from a particular part, and in larger quantity, and more promptly, than it would be by opening a vein. But as almost the only vessel on which arteriotomy has been performed is the temporal artery, we know little of the effects of abstracting arterial blood, except when it has been taken from that vessel. The result of my own experience has been unfavourable to arteriotomy; having found that the inflammatory symptoms recur much more frequently after a certain quantity of blood has been removed from an artery, than if an equal quantity have been taken from a vein in the arm; and I know that this observation coincides with the experience of some others.

There are, however, cases where the difficulty or even impossibility of procuring the requisite quantity of blood from a vein, renders arteriotomy an indispensable and important operation for the abstraction of blood.

A little reflection on these two modes of bleeding, may to a certain degree ex-

plain how this difference of effect is produced.

When blood is abstracted from an artery, there must be an immediate diminution in the supply of blood to the part nourished by that artery; but such is the vigour of the anastomosing branches, that the supply of blood thus cut off is very quickly restored. It is not so if a vein be opened, for it does not necessarily follow that the *arteries* of a part increase in activity, in order to supply the blood abstracted from the *vein*. Both these facts are confirmed by observation. If one of the carotid arteries be tied, almost immediately the temporal and occipital branches of the carotid of the opposite side may be distinguished through the integuments, dilating themselves, becoming tortuous, and struggling, as it were, to circulate an additional quantity of blood.

I was first led to remark this in the case of a child, on whose carotid artery I had placed a ligature for the cure of a large nævus on the cheek. Almost immediately after the operation, I observed the arteries from the opposite side of the head enlarging, increasing in their action, becoming tortuous, and actively employed in supplying the place of those vessels whose channels had been obstructed. Indeed, it was the knowledge of this power in the anastomosing branches, when a trunk is obliterated, that led Hunter to perform the "high operation," as it is called, for popliteal aneurysm. The same phenomenon is exhibited in the eye. If an artery on the sclerotic conjunctiva, passing into a speck on the cornea, be divided, immediately vessels will be perceived, stretching across the cornea from the opposite side, to supply the place of the vessel which was divided.

The whole arterial system, by a wise provision of nature, whenever the supply of blood to one part is diminished, makes an effort to throw blood by another to the part which has been deprived of its natural quantity, and thus the action of the heart and arteries must be more or less injured; whereas the abstraction of blood from a vein is followed by no such increased action of the arterial system,—there is no local diminution in the supply of arterial blood,—no effort made by the arteries to supply the place of the venous blood which has been removed. On the contrary, a diminution in the supply of blood to the heart by the veins will, as I have just observed, have the effect of diminishing the vigour of the heart's action, and also that of all the arterial system.

The effects of opening the temporal artery in puriform ophthalmia may be instanced, as well illustrating the difference between arterial and venous depletion for the cure of inflammation. An eye injected with red vessels, will be suddenly relieved by opening the temporal artery, and the conjunctiva will become quite pale, inducing one to suppose, that the inflammation is subdued. But I have generally found, that sooner or later, even in a few hours, the inflammation has returned, and I think others, particularly Dr. Veitch, have made the same remark. Whereas, when, in that disease, a vein in the arm is opened, and blood is taken to the full extent, the good effects of such depletion are permanent.

This is, therefore, a distinct and important difference between the changes which take place in the action of the vessels of a part, when blood has been taken from an artery and from a vein, and it explains the difference which I have always found in the employment of those two different modes of abstracting blood. It is also extremely probable, that there must be a difference of effect from the kind of blood which is taken away,—that the removal of a pint of arterial blood will produce a different effect on the system from the removal of the same quantity of venous blood. What these differences are I do not pretend to know, but one proof that the abstraction of venous blood is the most useful in the cure of disease is, that in those natural or "spontaneous hemorrhages" which are so salutary, such as those from the nose and hemorrhoidal vessels, the blood which is discharged appears to be chiefly venous. Where leeches and cupping are had recourse to, it no doubt happens that they remove both arterial and venous blood at the same time; but the circumstances under which those operations are performed, do not furnish us with any opportunity of discriminating the comparative effects of the abstraction of venous and arterial blood. Another point which you ought to bear in mind is, that the temporal arteries as they pass over the zygoma of the temporal bone, can only be once opened at the proper point for the operation. For arteriotomy is not like venesection,—the wound made in the vein uniting, and leaving the canal of the vessel entire; whereas when an artery is opened, it is requisite, after taking the necessary quantity of blood by the wound, to divide it completely in order to allow it to retract, that the blood may be stopped, for, as shall be afterwards shown, it is improper to attempt to do this by compression alone. The canal of the artery becomes, therefore, by the operation of arteriotomy, completely obliterated, and as the circulation is afterwards carried on by a greater or less

number of enlarged branches, neither the original trunk nor a branch of sufficient caliber will be found in the temporal region, on which the operation of arteriotomy could be repeated, should such a measure be deemed necessary.

Of the Local Abstraction of Blood.

There is no question which you will more frequently have to ask yourselves, when treating particular cases of inflammatory disease, than that of whether *general* or *local* bleeding ought to be employed, and, as far as I know, this most important practical question has not been explicitly answered, nor have such distinct rules been laid down by any author, as will serve to guide the young practitioner; though the practice of different judicious men on this, as in most other practical points, will be found nearly to correspond. Now it appears to me, that there are certain indications which will, on all occasions, enable you to employ, in the most decided manner, the one or the other of these modes of abstracting blood; but before endeavouring to point out what those indications are, it will be necessary to explain what is usually understood by *general* and *local* bleeding. It has been already mentioned, that cupping, scarifying, and the application of leeches, are considered as *local* bleeding, whilst venesection and arteriotomy are employed for *general* bloodletting.

But there are few parts of the body from which blood can be abstracted locally, strictly speaking; for blood taken by leeches or cupping from the integuments covering a diseased organ, often comes from vessels which are not ramifications of, and have no direct communication with, the vessels of the diseased organ,—the superficial and deep-seated vessels, both arteries and veins being, in most parts of the body, branches from other trunks. Thus, blood taken from any of the branches of the external carotid, as the temporal arteries in the treatment of the diseases of the encephalon, cannot be considered as local bleeding, from the distant and circuitous connexion those vessels have with the internal carotids. Neither, for like reasons, can blood, taken from the parietes of the chest or abdomen, be considered as strictly local bleeding in affections of the thoracic or abdominal viscera. The opening of a vein in the arm, abstracts blood more directly from the jugular veins, and, hence, from the encephalon, as well as the superior and inferior cavæ, than does leeching or cupping the integuments of the temples, forehead, or those of the thorax or abdomen. General bleeding, as it is commonly considered, is, therefore, a more local mode of taking away blood in the treatment of the various affections of the brain and of the thoracic and abdominal viscera, than that usually resorted to, and commonly considered, as local bloodletting.

Local or "topical" bleeding, as it is called, can, indeed, be employed only on a few organs, or in a few parts of the body. In the treatment of diseases within the cranium, topical bleeding can be accomplished by taking blood from the "ethmoidal vessels," or from the "frontal vessels," both of which come from the encephalon; or it may be taken from the vessels behind the mastoid process of the temporal bone, the veins communicating directly with the lateral sinus. As the frontal artery is a ramification of the ophthalmic, and as the ophthalmic artery comes from the internal carotid, and passes through the orbit to reach the forehead, blood taken from that vessel must be, strictly speaking, a more local bleeding in diseases of the head and globe of the eye, than blood taken from the temporal artery —the temporal artery being a branch of the external carotid.

On this account, in diseases of the head, as well as in diseases of the eye, more particularly those affecting the internal parts of the globe, leeches applied over the frontal vessels, give much more relief than can be obtained by abstracting an equal quantity of blood from the temporal vessels, by leeches applied to the temples.

Bleeding from the nose, or epistaxis, may also be considered as a local bleeding in diseases of the encephalon, for in such cases the blood comes from the ethmoidal vessels, which are branches of the internal carotids, passing through the cribriform plate of the ethmoid bone, and ramifying on the Schneiderian membrane. I have known cases of affections of the head, which, after resisting general bleeding, and the application of leeches on the head, were instantly relieved by the escape of even a few drops of blood from the nose. The effect of losing a small quantity of blood locally, is, indeed, often surprising. Of this I might give some remarkable illustrations.

Case.—An instance of the kind to which I allude, occurred in a lady, who, after employing local and general bleeding for a disorder in her head, applied to a quack doctor, celebrated for curing headachs. He introduced an instrument into the nose, by which he wounded the Schneiderian membrane, and produced a flow of blood; and the evacuation which followed instantly, completely cured the headachs. It was in a case of this kind that Galen acquired

much renown, by prognosticating that the person would have a flow of blood from the nose, by which the affection of the head would be relieved.

I have often thought that some mode might be contrived, by which an artificial flow of blood from the ethmoidal vessels could be produced, as there are, no doubt, many affections of the head which would be relieved by such an operation. Or leeches might be safely applied to the interior of the nostril.

Case.—A lady who had suffered long from headachs, was advised to apply leeches within on the membrane of the nostril. One was accordingly applied within each, and her headachs were completely relieved.

Leeches applied behind the ears are also found to relieve affections of the head; but I was unacquainted with the physiological explanation of this practical fact, until Mr. Quain observed, that the beneficial effects could satisfactorily be accounted for by the vascular communication of the integuments behind the ear with the encephalon, which has already been alluded to.

Immediately behind the mastoid process, and near where the temporal and parietal bones unite, is situated the mastoid foramen, through which sometimes an artery, and always a large vein, passes, which vein comes directly from the lateral sinus. It is, therefore, easy to explain how substantial relief should be obtained in those affections of the encephalon where depletion is necessary, by the application of leeches behind the ears, and it is often astonishing how copiously blood is abstracted from this part of the head, which has long induced me to employ this mode of bleeding very extensively.

"Scarifying" the conjunctiva, or applying leeches thereon in the treatment of some forms of ophthalmia, is also a useful means of abstracting blood locally, the good effects of which, when other modes of depletion have been employed, are very striking.

Leeches also, applied to inflamed gums, give great relief, and so also do leeches applied to the mucous membrane of the vagina in cases of inflammation of the uterine organs. Bleeding in the jugular veins is also a most useful operation in affections of the head, particularly in children, where leeches applied to the neck are often dangerous, and where the veins of the arm cannot be opened.

I formerly had occasion to remark, that the most powerful means we possessed for the treatment of diseases, produced their good effects by imitating the process which nature herself employs, and in no class of cases is the *vis medicatrix naturæ* more admirably exemplified, than in the benefit derivable from "spontaneous hemorrhages," or the propriety of local bleeding more distinctly pointed out. Indeed it is extremely probable that artificial bleeding was first suggested for the cure of diseases, by the beneficial effects observed to arise from spontaneous hemorrhages.

The effects of local bleeding from the hemorrhoidal vessels, is exemplified in *hemorrhoidal tumours*, many persons being in the habit of losing, and that sometimes at regular periods, a considerable quantity of blood from those tumours,—a circumstance which seldom fails to relieve some disturbance of the general health arising from congestion in the portal system. Hence the practice not only of promoting such a discharge in those who may have been habituated to it, and the dangerous consequences which its suppression has so often been known to produce, but the propriety it pointed out of local bleeding when either the hemorrhage is not sufficient to remove the symptoms, or when such symptoms at any time come on, and are not followed by the spontaneous evacuation of blood.

Blood is also discharged sometimes by the bursting of varicose veins, which is equally efficacious in relieving internal diseases, and Petit and others have recorded cases where such hemorrhages have taken place to an enormous extent.

Even in *malignant diseases*, such as cancer and fungus hæmatodes, the occasional hemorrhage from such tumours, whilst it may be sometimes too profuse, often has a salutary effect, and relieves the fulness of the vessels, and the pain which frequently accompany these diseases. Hence the decided benefit which I have often found arise from the occasional application of leeches to the adjacent parts, when there was any accession of pain or tension.

The same extraordinary relief may also be observed from hemorrhages in *sloughing ulcers*, the discharge of blood subduing that excess of violent inflammation which led to the sloughing of the soft parts. It was by observing the effect of hemorrhages in cases of this description, that I was first led to adopt what I have since found a most useful practice in sloughing sores,—that of abstracting blood artificially, not only in order to arrest the local bleeding, but to subdue that inflammatory condition of the system which leads to the sloughing process.

Effects of Bleeding from Incisions made in Inflamed parts.

The beneficial effects of local bleeding may also be observed when it becomes

necessary to make an incision into an inflamed part. It is by no means unfrequent to find, that extraordinary relief is produced by the blood which flows from an incision made through the inflamed integuments covering an abscess, and that too under circumstances where the accompanying symptoms would not have indicated the propriety of abstracting blood in any other way.

Case.—A remarkable illustration of the good effects of a local bleeding of this description I witnessed in a medical student who was under the care of Mr. LAWRENCE and Mr. EARLE, who had a most extensive and severe inflammation of the hand and arm arising from a poisoned wound of the finger, received when opening a putrid body. He had been bled copiously, until the pulse had completely sunk; but still there was so much swelling, redness, and pain, in the arm, that Mr. LAWRENCE was led to adopt a treatment first proposed by Mr. HUTCHINSON in erysipelas, and strenuously advocated by Mr. HUTCHINSON in his *Surgical Observations*. The practice consists in making deep and extensive incisions through the inflamed integuments. This was done in the above case, and several pounds of blood were discharged from the wounds, which, in place of weakening the patient, as might have been expected, was followed by rapid abatement of all the symptoms, and certainly seemed to be the means of saving life.

The common practice of laying open sinuses while the adjacent parts are in a state of inflammation, owes its good effects entirely to the profuse bleeding which generally follows the incision.

Similar good effects may be daily observed from the flow of blood which takes place when free incisions are made through the inflamed integuments of the finger in whitlows, and by dividing the gums during dentition. Independent of this relief from the bleeding, why should we not anticipate as much relief from the discharge of the serum, or sero-coagulable effusion, into the cellular tissue of an inflamed part, as from the discharge of the effusion when it has become purulent? It seems to me a point well worthy of consideration, whether or not in phlegmonous cases it would not be much more advantageous—in many instances of inflammation where there is no rational expectation of preventing suppuration—to make a free incision through the inflamed skin at an early period, and before any pus has been formed. The evacuation of the sero-coagulable fluid effused in the cellular tissue, and deposited there previous to its conversion into purulent fluid, along with the profuse discharge of blood from the incision made in the integument, would produce not only great relief from pain, but would limit and check the future progress of the inflammation.

Case.—A girl, about ten years of age, had a large inflammatory swelling on the ulnar aspect of the arm, which was extremely hard and painful to the touch, and the integuments were of a bright-scarlet colour. Though I could not distinguish any fluctuation, I was persuaded that by freely dividing the skin she must be saved a protracted suffering. I therefore made a free incision through the middle of the tumour. It bled most profusely, and I could not detect the escape of any purulent fluid with the blood. A poultice was applied, the inflammation and pain were almost immediately subdued, and the wound granulated and healed with great quickness.

The Spontaneous Bleedings from Wounds.

In many cases I have witnessed the beneficial effects of local bleeding which takes place after operations, and to avert or arrest which, care is usually, though injudiciously, taken. When speaking of surgical operations, I had occasion to point out the good effects which the loss of even very considerable quantities of blood during operations often has in preventing the subsequent febrile symptoms and local inflammations. But it may be here noticed, that whatever quantity has been lost during an operation—however carefully the patient has been prepared before the operation—however careful the surgeon may have been in securing with a ligature every bleeding vessel, yet, more or less, inflammatory action, accompanied by fever, may supervene, and a hemorrhage from the wound may take place. Under such circumstances little need be feared from the bleeding; and before placing a ligature on the bleeding vessel, it will be wise either to have the wound exposed, and to allow a sufficient oozing to check the inflammation and the accompanying febrile symptoms, or to take some blood from a vein in the arm for the same purpose.

On a former occasion I alluded to a case where I removed the greater portion of the lower jaw of a young woman who was so deluged in blood that by-standers conceived her recovery to be almost impossible. She remained many hours in a state of syncope, but I avoided giving her any stimulants, in the hope that the fearful wound would be more likely to heal by adhesion. But notwithstanding all precautions, in a few days she became hot and feverish, and blood issued from a

corner of the wound. I used no means to arrest it, and it stopped after a few ounces were discharged, completely alleviating all the inflammatory symptoms.

Whenever, therefore, there is any chance of bleeding from a wound, it is of great importance not to be too hasty in dressing it by applying plasters and bandages, so that if any bleeding takes place, all the pain and alarm of undressing the wound is avoided, and the bleeding vessel can be easily secured.

Local Bleeding; when to be employed.

These observations are sufficient to point out the advantages which are to be derived from local bleeding, strictly so called. In the treatment of those diseases wherein bleeding is to be employed, it is of great consequence to have impressed on your minds some rules to enable you on all occasions to decide whether to make choice of local or general bloodletting. Now you will find it an excellent rule, and one which I will venture to say will seldom lead you into error, always to employ general in preference to local bloodletting, in such cases of local disease or injury as are attended with, or have created, a disturbance of the general system. Local bleeding, on the other hand, ought to be employed in preference to general bleeding, when local symptoms only exist, or when local symptoms only remain, the general symptoms having been subdued by previous general bleeding. A person, for instance, receives a blow upon the head, which creates a good deal of symptomatic fever. He is bled more or less profusely at the arm, and until the febrile symptoms are subdued. A good deal of inflammation of the integuments, however, still continues, to remove which leeches may be judiciously applied. The same observation may be made in the treatment of almost every injury or disease in which bleeding is necessary. Perhaps the most frequent error which is fallen into in the treatment of those diseases which require bloodletting, is, that local bleeding is employed where general bleeding or venesection ought to have been substituted. It is seldom that the reverse practice has been adopted, or that a patient has been copiously bled at the arm, in place of losing blood by leeches or cupping. There seems always a disposition, both in patients and in medical men, to economise blood, venesection being commonly considered a much more serious operation than cupping, or the application of leeches. Hence, one of the latter, though often injudiciously, is generally preferred. Hence, in many instances of persons who have repeatedly lost blood, an error has been committed in commencing with local in place of general bleeding, the consequence of which is, that the disease is not so soon checked as if a more copious general bleeding had been employed in the first instance; and, moreover, by the necessity of resorting to a frequent repetition of local or general bleeding afterwards, the whole quantity abstracted greatly exceeds what would have been required had the treatment commenced with an adequate venesection.

In the next lecture I shall consider the subject of *general bloodletting*, and endeavour to point out the symptoms which indicate its use, the quantity of blood to be abstracted, and its utility in the cure of diseases. *continued at Page 577*

HOTEL DIEU, PARIS.

CLINICAL LECTURES ON SURGERY,

DELIVERED BY

BARON DUPUYTREN,

During the present Session, 1833.

[Revised (before translation) by the Baron himself in the fasciculi of his "Leçons Orales de Clinique Chirurgicale," published periodically by G. Baillière, Paris.]

INFLAMMATORY, SCROFULOUS, AND VENEREAL ENGORGEMENTS OF THE TESTICLES.

The art of a surgeon, Gentlemen, consists not only in removing those parts of the body which nature has stricken with death, but also in preserving such as the negligent or ill-instructed practitioner would not hesitate to take away by operation. How many unfortunate creatures return from the field of battle, having suffered more under unskilful hands than from the cannon shot! We might also cite many hospitals, where the rage for operating has produced the death of numerous victims. For example, how many surgeons do not hesitate to remove limbs affected with white swellings, without caring whether the lung be the seat of tubercles or other morbid alterations!

Objections to the Early Removal of Testicles.—Preliminary Trial of Medical Treatment.

This love for operating never appears so strong as in cases of engorgement of the testicles; yet surgeons might have remarked, that sadness, grief, and melancholy, almost always lead to the tomb those who have suffered this cruel mutilation. I had often been struck with this deplorable event, and for several years

have attempted to render the operation unnecessary, by ascending to the original disease. We are in the habit of receiving every year at the Hôtel Dieu, at least 100 patients affected with enlargement of the testicles, and the greater part of these is dismissed cured, without our being obliged to have recourse to the operation. You may see several patients at present in the Salle St. Marthe; in some the engorgement is situated in the epididymis; in others the body of the testicle is affected; finally, in other cases, both the epididymis and testicle are engorged. In these different examples, the swelling was thrice produced by a blennorrhagia, and in two instances it came on without any antecedent discharge.

Case.—A month ago, one of these individuals came to the morning consultation to receive advice for a tumour which occupied the right testicle. This organ was six times larger than it is in the healthy state; when handled, we felt its substance much more hard than is ever experienced in cases of hydrocele, while on the surface we could readily distinguish projections and irregularities which are almost a certain sign of the existence of scirrhus. The weight of the testicle was considerable. When questioned on the cause of his disease, the patient attributed it to a contusion of the organ.

In the greater number of these cases, I have occasion to be convinced that enlargement of the testicle arises from external violence, from some old venereal affection, or from a scrofulous diathesis: hence I make it a rule never to practise the operation before I have employed the treatment which I think appropriate to the cause of the disease, for a month or six weeks. The first account given by the patient, made me conjecture that the swelling of the testicle depended on some external violence, and the antiphlogistic treatment was therefore considered the most appropriate. The constitution of the man was not such as could lead to the idea of a scrofulous taint; we therefore applied leeches to the tumour, and covered it with emollient cataplasm; ordered broth and a guarded diet. The patient returned in some time without having experienced the slightest benefit. He was advised to repeat the trial of the above means, but it was equally unsuccessful as the former. When admitted into the hospital about a month ago, he was examined a second time with care: from some expression which dropped from him, we suspected an old syphilitic affection, and the antivenereal treatment was immediately had recourse to. The patient was directed to take the *Compound Decoction of Sarsaparilla*, with 4 or 6 oz. of *Sudorific Syrup*, and one of these pills, three times a day:—

℞ *Deuto Chloride Hydrarg.* ⅛ to ¼ gr.;
Opii gum. extr. ½ gr.;
Extrac. Gayac. 2 gr.

Being convinced by experience that the small doses act more efficaciously than the larger, we gave three pills every day, containing each one-eighth or one-sixth of a grain of corrosive sublimate, so that the patient gradually arrived at the full dose of ¼ a grain. Generally, in about one or two months, the accidents are all dissipated by this mode of treatment, but in the present case, although steadily persevered in, it was not of any avail. The testicle had, on the contrary, increased in size; it was heavy and rough: the patient experienced lancinating pains, which extended along the chord up to the loins. In this state it was thought dangerous to defer the operation any longer. I had ventured to announce beforehand, that some fluid was thrown out into the cavity of the tunico vaginalis, but this symptomatic hydrocele is not the main disease, which consists in an enlargement of the proper substance of the testicle. It is probable that the alteration is not far advanced, for if we can believe the patient, the swelling commenced only three months ago: had it been of a year's standing, I would not hesitate to say we should find the testicles softened, grayish, and presenting all the forms of medullary cancer.

But how was the organ to be removed? The answer is very easy, and the process at once extremely sure and quick. An incision is made anteriorly and posteriorly, commencing as high as the inguinal ring, and carried down to the lower and posterior part of the scrotum. In scirrhous enlargements, the testicle is often not the only part affected, but the disease frequently attacks also the spermatic vessels of the chord, since the incision commences at the inguinal canal, in order to follow those vessels if they be diseased. The incision also crosses the whole length of the organ, that the testicle may be the more readily disengaged; for if the incision were only two or three inches long, the dissection necessary to isolate and remove the testicle would be extremely difficult. The prolongation of the incision behind is also easily understood, for if it did not extend in that direction, the scrota when empty and contracted would form large sacs for the accumulation of the pus. As soon as the incision is made, we proceed at once to take up the vessels, for as the spasm and action of the cold air may make them retract, there is danger of subsequent hemorrhage being produced by the

return of the blood and heat. The vessels are tied; the testicle should be elevated a little, and the scrota held on one side by the assistant: the chord should now be dissected, and if any more vessels are opened, they are also to be taken up, or the flow of blood may occasion infiltration, inflammation, the formation of abscess; and we should be obliged to tie them as a last resource. All the cellular tissue which envelops the testicle, chord, membranes, and even the cremaster muscle, should be carefully removed. The chord is now examined; if healthy, it is to be divided above the testicle, but if not sound, the incision must be carried a long way above the diseased part.

Modes of removing the Testicles.

Various methods have been employed to extirpate the testicles in animals: some twist the spermatic vessels and then tear them; others extend and tear them without any twisting. The tearing of the vessels is not followed by any hemorrhage, but this one advantage does not seem to counterbalance the severe accidents to which it may expose the human subject. In Normandy the testicles of horses are removed by compressing the parts above them between two little pieces of stick, until gangrene causes their separation; but this dangerous method often produces the loss of a great number of horses in that country.

In man the testicles may be removed by two different processes. A simple section may give rise to a hemorrhage; besides, the parts have not such a retractable force as they have in animals; we are, therefore, compelled to embrace the chord in a general ligature, comprehending the vas deferens, cremaster, and vessels. Sometimes the nerves of the testicle are also included; but this method is excessively painful, and it is much better to make a partial ligature of the chord, which is more easily done if the chord be divided beforehand. We should take care not to divide too close to the inguinal ring, to avoid the dangers of any internal hemorrhage. In order to avoid the retraction of the chord, it is usual to embrace it entirely within the ligature; but it is more simple and less painful to fix it by the tenaculum, and then cut it below the instrument, sponging the divided surface to discover the source of the blood, and applying distinct ligatures to each bleeding vessel. When the operation has been short and simple, and the ligatures have been well applied, the lips of the wound may be united by the first intention; but we know how much the tissue of the scrota is endowed with extensibility and retractility; hence the lips of the wound are apt to separate, to turn inwards, and to leave the skin only in contact. This disposition is always a great obstacle to cicatrization, I am, therefore, in the habit of applying two or three stitches to prevent the retraction of the skin. It hastens the cure and prevents hemorrhage.

Extirpation of the testicle is an operation rarely performed at the Hôtel Dieu, though you may see it very often at the other hospitals. You have already been told the reason of this; the treatment, besides, does not prevent us from having recourse to the operation at a later period. if necessary, and I would impress it on your minds as an important rule of practice, never to extirpate a testicle reputed cancerous, without being well assured that the disease does not depend on an inflammation produced by some external cause, or scrofulous or syphilitic affection.

Erroneous Extirpation.

Case.—Mons. A., aged 41 years, farmer, was affected for ten years with an enlargement of the testicle. The patient, an old soldier, had formerly some venereal symptoms. However, the volume, hardness, and lancinating pain, did not leave any doubt as to the nature of the affection in the mind of the attending surgeon, who regarded it as cancerous, and proposed the removal of the organ, which was accepted, and performed by Dr. C. The chord and glands in the groin did not present any alteration; the wound healed up very rapidly, but in about a month the right testicle began to swell. Was it a return of the cancer? In this case should the testicle be removed? Or was it not to be feared that the disease would extend into the abdomen? It was rather an embarrassing case, as you see, and, under these circumstances, I was consulted. But here the utility of the rule I have laid down was well exemplified. Antivenereal constitutional treatment was employed for a month as a trial; the engorgement gradually gave way and soon disappeared altogether.

Precaution in seeming Scirrhus.

Case.—Let us cite a fact, of a different nature, but which proves how guarded the surgeon ought to be in his diagnosis. In 1827 a man was received into the Hôtel Dieu, with considerable enlargement of the left testicle. Lancinating pain was felt in the tumour, and extended up the spermatic chord to the groins and loins; the patient was excessively reduced and thin. There was no symptom which indicated that the disease depended on a hydrocele, or a scrofulous or venereal enlargement; everything, on the contrary, led to the idea that

it was scirrhus. I could not, however, but remark, that if hydrocele be complicated with a cartilaginous state of the tunica vaginalis, the surgeon may be easily deceived, and that this error had been committed frequently. In order to avoid a mistake of this kind, we should make a longitudinal incision in the skin, expose the testicle, and practise an exploratory puncture through the tunica vaginalis, near the centre of the tumour. Should no fluid be discharged, or, if decomposed, fetid blood flows from the puncture, the chord and spermatic vessels should be seized at once, tied in mass, and cut through. By this means, we are sure to avoid any error. If, contrary to the symptoms, the tumour contain nothing but water, no harm is done by the puncture, and the wound may be readily closed, or other measures adopted accordingly.

The present case was a striking proof of the necessity of this precaution, for on making the puncture we found a hydrocele with cartilaginous walls, instead of the scirrhus which had been expected to exist. In engorgements of an inflammatory nature the body of the testicle may be attacked, or the epididymis may be the seat of the disease, or, finally, both may be affected at the same time. In the first case the swelling is more marked and more easily dissipated; that of the epididymis is more hard, more difficult to cure, but less voluminous. The anatomical structure of the parts explains this difference: the testicle is an organ formed of a soft, pulpy, parenchymatous tissue, in which accumulations of fluid are easily formed, and as easily dissipated; but in the epididymis whose structure is more complicated, presenting internally a mucous surface, and externally a fibro-cellular tissue, engorgements form more slowly, and are more difficult to combat. In patients of the latter class, the anterior portion of tumour is supple and soft, leaving no doubt of the healthy condition of the testicles; but when the hand is carried round to the posterior part, we feel a hard uneven body, evidently belonging to the epididymis. Lastly, leeches, baths, and emollient poultices, readily cure, in most cases, engorgements of the testicles, whilst they are much less efficacious against enlargement of the epididymis.

Cause, Progress, and Treatment.

In cases of enlargement of this latter part, we must, in the first instance, employ antiphlogistics. Should these be unsuccessful we may try discutients, and finally, derivatives; these are the three fundamental means. Thus in the acute stage, the antiphlogistic method is sufficient to dissipate the bad symptoms; one two, or three bleedings, according to the patient's strength; twelve, fifteen, or twenty leeches, frequently applied, with baths, emollients, and severe regimen. These means are so efficacious that we have often seen enlargements disappear in eight or ten days under their influence. Should the engorgement be chronic from the outset, or have passed from the acute to the chronic stage, we commence with emollients, and then order discutients, such as diachylon plaster, or the mercurial soap plaster; but the cure will be very tedious and slow, unless we join at the same time derivatives, and purge the patient every two or three days. Calomel, a medicine so often abused, is here an excellent remedy; or, instead of calomel, we may give a good dose of castor oil about six o'clock in the evening; other purgatives, as the sulphate of soda, &c., may also be given with advantage.

By these means we are generally able to dissipate enlargement of the testicle, but when they are not employed perseveringly, the organ is apt to become cancerous, and its removal indispensable.

The cause which determines enlargement of the testicle may depend on a scrofulous diathesis; and it would seem, at first sight, easy to distinguish them from those of a venereal nature; however, we must confess that in many cases they commence absolutely as the others, and only assume their true character after a period of time more or less considerable. In general they do not yield to ordinary treatment; they are extremely tedious, and often exist with other affections of the same nature, connected with the scrofulous constitution.

The tubercular degeneration is one of the principal characters of this kind of enlargement: in most cases it affects the fibro-cellular tissue which surrounds the epididymis, or may arise in the substance of the testicle. The tubercles are developed slowly, and may exist for two or three years; their development, progress, and duration, are symptoms by which we may discover their true nature. These tumours are less hard than scirrhus, but more hard than those of an inflammatory kind; they are not accompanied by heat or redness, and give rise to a sensation of weight and numbness; the subcutaneous cellular tissue is usually unaffected; the tumour is commonly unequal and irregular in its general form, while, in scirrhous enlargement, the testicle is globular, and the epididymis knotty; the spermatic chord is sound, but in some cases it is also attacked.

As the disease progresses, various points

form in the interior of the organ, which become soft, and when we touch it, we have the sensation of touching a soft body. In a short time small projecting blue points form on the surface; these portions of the skin ulcerate, and the openings discharge a serous pus, a cheesy, yellow, putaceous matter, which is evidently the product of the scrofulous affection. Fistulous orifices are now formed, and give issue to a serous, ill-conditioned pus. At this period we can have no doubt on the nature of the disease, which may continue for several years. If the constitutional affection can be combated and arrested, we soon see a change for the better take place in the organ; but if the means employed should not have this fortunate effect, the testicle becomes soft, fungous, and is converted into a tissue similar to that which we see round articulations affected with white swelling. The scrofulous testicle may pass into the cancerous state, but this termination is rare.

When the testicle has arrived at this degree of disorganization, we can easily comprehend how nothing but extirpation can cure the disease, provided that it is confined to the organ. When once the swelling is known to be of a scrofulous nature, any inflammatory symptoms which exist must be combated, and we must then have recourse to general hygienic means, which are often more efficacious than any medicines. The patient should choose for his dwelling an elevated situation, dry, and exposed to the south; he must cover himself with flannel from head to foot; and the body should be constantly rubbed with a dry flannel; exercise in the open air, or under the sun, should be taken at the same time; he should use a strengthening diet, of game, &c., with antiscorbutic vegetables. Acids, whether mineral or vegetable, acid and farinaceous vegetables, should be interdicted; his drink may be composed of an infusion of wild chicory, and the tips of the hop leaf. If the patient's constitution be remarkably lymphatic, we recommend syrop of gentian, prepared with water, instead of that made with wine or ammonia.

Other remedies may be also administered. Latterly *iodine* and its preparations have been recommended; it is given in the dose of one-eighth, one-sixth, one-fourth, or one-half a grain, in distilled water flavoured with peppermint. The virtues of iodine, as of all other new remedies, have been wonderfully exaggerated; it is a medicine which succeeds in very many cases, but which should by no means be regarded as a panacea; externally it may be employed in the form of hydriodate of potass in ointment or lotion.

When the surgeon does not wish to employ this remedy, he may have recourse to sulphur baths, or to salt aromatic applications. It will also be useful to inject the same fluids into the fistulous passages, taking care that they do not pass into the cellular tissue. By these means, continued for a long time, and assisted by occasional applications of the cautery, we may often cure scrofulous enlargement of the testicle.

But if, in spite of these remedies, the testicle should arrive at an advanced degree of disorganization, if it tend to become scirrhous, or soft and pulpy, if it contain numerous scrofulous masses, we should not hesitate to remove the organ, after having first treated the constitutional disposition. Without this precaution, the patient would be exposed to the danger of perishing from secondary accidents, as pleurisy, pneumonia, suppuration of the liver, &c.

After the removal of the testicle, if we examine the alterations which have taken place in the organ (when the cancerous degeneration does not exist), we find the sound parts distinctly separated from the diseased; here and there we find numerous masses of scrofulous matter, and a white, demi-fibrous, demi-cellular substance, containing coagulated albumen. We also see tubercles, or masses of tubercular matter, inclosed in mucous cysts, or isolated. The alterations most commonly exist in the cellular tissue surrounding the epididymis, in the epididymis itself, in the testicle, but very rarely in the chord.

Venereal Swelling of the Testicles.

Besides the two species of enlargement of which we have just spoken, there exists a third, the venereal swelling. Latterly, Gentlemen, some surgeons have wished to treat venereal affections exclusively by the antiphlogistic method, but they seem to have forgotten that in these diseases two essential conditions exist, the inflammatory element and the syphilitic element. Without doubt the first symptoms which declare the existence of syphilis are of an inflammatory nature, and should, consequently, be treated by the antiphlogistic method, which sometimes dissipates them altogether; but we commit a great error if we believe the disease to be thus radically cured. As long as the syphilitic element remains, there is danger of a relapse. I could cite innumerable examples which demonstrate that persons attacked with syphilis, who were not willing to employ the appropriate treatment, have had, subsequently, ulcerations of the throat, exostosis, enlarged testicle, and other symptoms, which have

yielded to anti-syphilitic remedies. None of you can forget the history of the three young pupils who inoculated themselves some years ago with the pus from a venereal sore. All the symptoms which first appeared were dissipated by an antiphlogistic treatment; but after some time, those of a secondary venereal affection broke out with such violence, that one of the pupils terminated his existence miserably with his own hand; the two others came to consult me, and were treated and cured by anti-syphilitics.

By what sign can we recognise a venereal enlargement? Every day we have patients coming into the hospital with enlargement of the testicle, for which they cannot assign any cause. They have never suffered any contusion, or met with a fall; the engorgement has passed from one testicle to the other, where it has remained to the time of their entrance, or has always been stationary. Well, if the tumour be elongated, or have a cylindrical form, if it do not determine lancinating pains when touched, and if the patient have been at any time affected with venereal disease, clap, bubo, &c.; if he declare that one testicle, after having been six months, or a year, or eighteen months, affected, has returned to its normal state, while the other testicle immediately was seized, you have strong reason to presume the disease to be venereal, for if the swelling were cancerous it would not be subject to this metastasis, which is a pathognomic character of these venereal enlargements.

A fact of no less importance to be noted is, that in case of relapse, when a cancerous testicle has been removed, the chord in most cases becomes diseased, while in syphilitic enlargement it is the other testicle which becomes effected. Should a general examination of the patient disclose other symptoms, as pustules, exostoses, &c., the case is beyond doubt.

But even if we are unable to pronounce decidedly, is it not better to employ an antivenereal treatment for six weeks or two months, than to practise an operation at once useless and fatal in its results? The existence of a specific venereal virus has been denied in latter times, as I have already mentioned to you, yet experience seems to have proved its existence incontestably, and the belief so generally adopted could only be overthrown by a mass of subtleties. Admitting syphilis to be an inflammation, how can we account for its communication in the great majority of cases? Is not this a characteristic phenomenon in which it differs from all other inflammations? The distinction which I have laid down between the specific inflammatory portion of the disease, is essentially practical, and explains the reason why individuals treated by the antiphlogistic method are affected with all the symptoms of constitutional syphilis six months, a year, or even more, after the period of their pretended cure.

The venereal element is therefore a real, positive virus, capable of being communicated like that of the small-pox, and they indulge in a fatal error, who regard only the inflammatory portion of the disease, in combating which they may indeed destroy the effect, but leave behind them untouched the original cause of the disease.

RICE AND CHOLERA QUESTION.

TEST FOR NOXIOUS RICE.

To the Editor of THE LANCET.

SIR,—As the discussion about the rice question in your useful and interesting publication has created considerable alarm amongst the public, and the amateurs of rice in particular, would it not be an act of justice and kindness to those individuals, on your or Dr. Tytler's part, to afford them some test to distinguish the sound from the unsound rice?—I am, Sir, your humble servant, and constant reader of THE LANCET, although not a professional man,

R. R. R.

October 31st, 1833.

FOOD EATEN IN THE HOUSE OF CORRECTION, WAKEFIELD, DURING THE CHOLERA.

To the Editor of THE LANCET.

SIR,—Having read with much interest in your journal the reports of the debates "on the production of cholera by eating rice," I beg leave to intrude a few remarks on your well-filled pages, as they will corroborate the statement of Mr. Ollier of Manchester, and that from the Clerkenwell prison.

During the summer of 1832, Wakefield was visited by the spasmodic cholera, and out of the 158 cases that occurred, 78 were prisoners in the West Riding House of Correction. On the breaking out of the disease, 529 were confined in that establishment, and from the overcrowded state of the prison, and with a view of preventing the extension of the disease, 75, who had been committed for trivial

offences, and whose term had nearly expired, were liberated. The previous health of the prisoners had been good, with the exception of a small number, who had bilious diarrhœa. As to the probability of rice being *introduced* or *mixed* with the flour, oatmeal, or bread, this would be totally impossible, as the whole of the diet is furnished by the Riding, and nothing, with the exception of milk, is allowed to be *purchased* or *received* in *any form* whatever. All the corn is purchased by the governor; it is ground and made into bread *within* the prison walls, and rice has *never* been given as an article of diet to the prisoners; therefore the guardians of the prison can prove beyond doubt, that no rice was *mixed* with the bread or the flour of this establishment. During the prevalence of the cholera, a more generous diet was allowed to the prisoners, and, in consequence of a threatening of its return, has been continued until very recently. From the great increase of committals, and with a view of making the prisoners heartily glad to arrive at the end of their imprisonment and avoid a repetition of it, the magistrates have determined to abridge the comforts by reducing the diet, so as to be coarse and scanty,—enough for nourishment and health, and *nothing* more. And in consequence of a failure in the potato crops in this district, and having repeatedly found that many of the cases of diarrhœa were occasioned by the passage of large portions of unmasticated and undigested potato brushing against the delicate mucous membrane of the bowels, we have substituted an allowance of *rice*, the result of which I will communicate after we have made a longer trial of it.

As surgeon to the House of Correction, and having a superintendence over the prison, I was conversant with what was eaten, and must, so far as I have witnessed, object to Dr. Tytler's theory of cholera being produced by rice; though I most cordially thank him for having established the fact, "that deleterious rice is now selling in the markets of England." I remain, Sir, yours truly,

HENRY DUNN.

Wakefield, Oct. 29th, 1833.

[Considering that the request contained in the former of these two letters was a very important one, we forwarded it, together with the letter of Mr. DUNN, to Dr. TYTLER, who has obliged us with the following communication in reply.—ED. L.]

REMARKS BY DR. TYTLER ON THE FOREGOING LETTERS.

To the Editor of THE LANCET.

SIR,—In reply to the letter which you have put into my hands, relative to the marks by which noxious rice is to be distinguished from innocent rice, I beg to remark, that the *noxious* rice is what is generally termed in the price currents, in England, "coarse Bengal rice," "yellow Patna rice," and "Moongy rice." In India it is commonly named "Ouse rice," because it is cut in the month of "Aswin," answering to part of September and October. That rice, therefore, grows during the rains, or in the months of May, June, July, and August, and, consequently, is exposed in the fullest manner to the causes producing *ergot* in wheat and rye. The rice which I conceive to be distempered with ergot, is easily recognisable by its colour, which is of an orange tinge, a bright yellow, and sometimes brown. When broken the grains resemble ho[rn] and present no appearance of farina. [Be]sides ergot, in every sample of [the] rice many black and shrivell[ed] are observable, all of which are d[is]and so well is this fact known [to] tives of India, that a comm[on] stance proverb is, "There i[s] black in the rice,"—meaning t[hat] as it should be in some oc[cas]luded to. This proverb sh[ows] habitants of England that th[e] condition of rice is well kno[wn] east (though its effects are not [so] neither has any attention hither[to] paid to the subject in Europe. The [husk] covered with *kun* or *koora*, are not [ne]cessarily *diseased*. The kun or koora is a skin, or *tunic*, which covers *all* rice, but is found most abundant in the "Ouse" crops. The effects of kun are very deleterious to the human alimentary canal; and one great object with the natives of India is, the accomplishing of a complete cleansing of the rice from kun, which is a process at once laborious and difficult. In the bags which contain the coarse and yellow rice imported into England, a large quantity of kun, in powder, is always mixed with the grain, from a supposition that it tends to preserve the grain from the depredations of insects. Hence, this dust, or poisonous kun, is unavoidably mixed, in large quantities, with the rice flour which is made from coarse rice. That this is the source of terrible disease in England, I have no doubt, attention not having hitherto been attracted in Great Britain, in a medical point of view, either to the presence of kun in the coarse rice

bags, or to its deleterious effects when admitted into the stomach as food.

That there is a *poisonous* rice, I have shown, but I cannot take upon myself decidedly to pronounce what rice is absolutely *good*. For, although I attempted, over and over again, to institute a series of experiments, having this object in view in India, yet I was constantly thwarted in my attempts, and never could succeed in establishing a test,—no kind of encouragement, but the *reverse*, having ever been given to this pre-eminently important inquiry. By the effects of rice alone, therefore, this question must be determined.

I have had much pleasure in perusing the letter from Mr. Dunn, because *facts* are what I solicit, and not *opinions*. By this letter, therefore, is established the fact, that in a House of Correction in Yorkshire, cholera prevailed, notwithstanding all the endeavours of the Governors and others to furnish *pure wheat flour* to the prisoners. This is the utmost extent of Dunn's statement. But to render the complete, it is necessary to produce which it can be undeniably moment of its being eaten, our, or kun, has been mixed *after the corn has been* one great point which nation, because in India fact, that wheat flour is ge quantities, and rice in its place, from a sup- *weight* of the entire mass by increased. With re- stitution of rice for pota- no further remark, than never declared *all* rice to be at the disease it produces is cholera. The rice may, there- produce, should it be bad, a deleterious effect on those who partake of it, although the disease thus produced may appear to the medical gentlemen in attendance to originate in some other cause.

In conclusion, let me observe, that as Mr. Dunn joins in cordially thanking me for having established the fact of deleterious rice being "for sale in the markets of England," I conclude he will be careful as to the *description of rice* which is given to the Wakefield prisoners. Consequently the result of that description of food, whatever it may be, cannot affect the fact, that there is a deleterious species of rice in the markets, and that its use ought to be avoided as food.

I remain, Sir,
Yours very obediently,
R. TYTLER, M. D.

London, Nov. 4th, 1833.

LETTER FROM DR. BIRKBECK.

To the Editor of THE LANCET.

SIR,—In the very able and comprehensive report of my observations at a late meeting of the *Westminster Medical Society*, introduced into your publication of Saturday last, I have noticed with regret two very material errors. They are of so much importance to the parties alluded to, as well as to myself, that I am persuaded you will secure their correction, by giving immediate insertion to this letter.

When speaking of the contest between Mr. Ellerby and Mr. Salmon, I am reported to have said, "But, Sir, the moment it was in the power of Dr. Clutterbuck and myself to bring forward the subject of this law, we did so, and, as you may suppose, we were strengthened in this step by the unfortunate contest in which Mr. Salmon was engaged with Mr. Ellerby—with honour to those gentlemen, I assure you, notwithstanding what appears to be the impression of some gentlemen." Now the words which I did actually utter, as I find them elsewhere reported, and also as I distinctly remember, were the following:—"In the unfortunate contest in which my estimable colleague was honourably, most honourably, engaged, I can assure you, notwithstanding what the gentleman (alluding to Dr. Epps) has insinuated to the contrary." I have always believed, and documents now in my possession establish the belief, that with Mr. Ellerby and his supporters, the disgraceful practice of making money votes, in this instance, originated; and I have, consequently, always expressed, strongly and severely, my opinion of his part in the transaction. It was impossible, therefore, that even by any conceivable inadvertency, I could have applied the epithet "honourable" to him. That it could with justice be applied to Mr. Salmon, who did unquestionably make votes of a similar description, only becomes possible in consequence of knowing, as I do know, that such votes were created by him in self-defence (after having already endured two contests, and conscious of possessing the support of the real governors of the charity), against direct purchase on the part of his opponent. This will be found to be satisfactorily established, by reference to the facts advanced by Mr. Salmon in his address to the Society, as reported in your subsequent pages.

The second mistake, involving the conduct of my early and excellent friend Mr. George Young, for a considerable period a distinguished surgeon in this metropolis,

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In conclusion, let me observe, that as Mr. Dunn joins in cordially thanking me for having established the fact of deleterious rice being "for sale in the markets of England," I conclude he will be careful as to the *description of rice* which is given to the Wakefield prisoners. Consequently the result of that description of food, whatever it may be, cannot affect the fact, that there is a deleterious species of rice in the markets, and that its use ought to be avoided as food.

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R. TYTLER, M. D.

London, Nov. 4th, 1833.

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The second mistake, involving the conduct of my early and excellent friend Mr. George Young, for a considerable period a distinguished surgeon in this metropolis,

is contained in the following paragraph:—"Such an individual would once actually have been elected on the faith of his paper qualifications, had he not miscalculated by a few pounds the sum his rival was going to pay to secure votes." Here I stated, although I cannot recall the precise words, that Mr. Young, fully relying upon his professional reputation, which at once secured for him numerous promises, did not make any votes during the progress of the election; whilst his opponent, perceiving the weakness of his cause, made upwards of four hundred. Had this very inferior, and almost unknown, candidate extended the power of his purse a little further, he would have been successful, for Mr. Young had only a majority of five.

I remain, Sir,
Truly yours,
GEORGE BIRKBECK.

50, Broad Street, Nov. 4, 1833.

LETTER FROM DR. EPPS.

To the Editor of THE LANCET.

SIR,—I read this evening the Report of the meeting of the *Westminster Medical Society*, and of the speeches on that occasion; and, although full, in my opinion, the points on which I rested my opposition to the vote of cordial thanks to the ex-officers of the Aldersgate Dispensary, are (from the enumeration of the facts I detailed not being given) sufficiently apparent. The principal points on which I rested my opposition, were the following:—first, that Drs. Birkbeck, Clutterbuck, and Lambe, *joined* an institution in which the law they now condemn, naked and in all its deformity, existed. And, secondly, that Mr. Salmon had *made use of* the vote-making law at his contested election with Mr. Ellerby. Now, it seemed evident, that if the first three gentlemen had been influenced by a regard for the dignity of the profession, they would never have *united* themselves with an institution having a law they now so condemn; for surely, if it is contrary to the dignity of the profession, NOW to *remain united* to an institution having the law complained of, it was equally contrary to the same dignity *then* to *join* the institution, having a law less protected than the one now complained of. And yet these three gentlemen did join the charity, having this law as one of its standing laws. It may be said, that "you, Dr. Epps, would have done the same." Well, may be; but these gentlemen stand upon the *principle;* that principle being put forward, we must test their conduct by that principle. *They* take high ground, and, as thus standing, they must be examined. Dr. Birkbeck managed to lead the society away from this point, by arguing as if *I* had stated that he and the two other physicians had made use of this vote-making law—but I said no such thing. I knew that there was no contest when these gentlemen joined the charity, and therefore there was no need, on their parts, to use this law, and I believe that Dr. Birkbeck would not have so disgraced himself if need had existed; and so also those who know the two other gentlemen most likely believe in reference to them. What I complain of was, that these three gentlemen *joined an institution having the law complained of*—the law so derogatory to the dignity of the profession. Dr. Birkbeck says he had not *seen* this law. Surely he, however, would read the laws *after* entering the institution, and yet, from 1807 to 1824, the period between Dr. Birkbeck entering the institution and bringing the law forward, passed (perhaps Dr. B. will correct me) without any attempt to amend the law. Again, in regard to Mr. Salmon, this gentleman has acknowledged that he actually did make use of the law complained of, and made voters; and it is on this ground that I could not consent to give the cordial thanks of the society to him. It is true, Mr. Salmon did not make use of the law at the *two* first elections. Why did he sacrifice the principle of not purchasing an office at the *third*? He explains WHY. That explanation I could not deem sufficient, and therefore refused to give my "cordial thanks" to him, as an ex-medical officer, for his "disinterested conduct." To apply to yourself, Sir. What would have been thought of you, if, when a candidate for Finsbury, you having stated that you would not spend a farthing on the contest, had, in the hope of getting in as member, declared, that as (supposing a case) your opposing candidate used money, you would spend money in making voters? Would *you* have talked about adhering to a principle? Would *you* have thought that the means justified the end? No, Sir, I consider that your conduct in refusing even to *canvass*, when a little canvassing would, I have reason to know, have brought you in victorious, has elevated you very high in the estimation of your supporters, and also of the opposing candidates.

I feel proud, Sir, that I have been permitted to raise my opposing voice against this voted "cordial thanks," and feel convinced that when medical morality shall

be at a little higher ebb than it is at present—when no man will disgrace himself by becoming a Fellow of an institution that admits none as "Fellow" but those who believe in a particular creed—only bowing the knee and swearing to obey laws in the making of which he has no voice, then my conduct will be ascribed to those motives which I know influenced me in manifesting it.—I have the pleasure to remain, yours in well-wishing,

JOHN EPPS, M.D.

89, Great Russell-Street, Nov. 1, 1833.

LONDON MEDICAL SOCIETY.

Monday, October 28th, 1833, concluded.

DIAGNOSIS OF MALIGNANT CHOLERA.

Mr. PROCTOR this evening inquired whether members generally had found the cholera at its last irruption less fierce than at its first appearance. My medical friends, he observed, most of them tell me that either their treatment has this season been more successful, or the disease has been much less severe.

Mr. STEPHENS (no one seeming to think that the severity of the disease had diminished) drew attention to some of the "minuter shades which distinguished the epidemic," and dwelt long on the subject of troublous apprehensions and sensations within, experienced by himself during its prevalence, though not amounting to an attack of the disease,—expressing his opinion that "the world should know that feelings might exist during the epidemic, creating fear of, without leading to, it." Carefulness in diet he regarded as of the first importance on such occasions.

Dr. WILLIAMS suspected that "mental anxiety" was the proper answer to the riddle.

Mr. STEPHENS said nay, but rather that the symptoms caused the mental anxiety.

Mr. PROCTOR.—These remarks lead me to say, that I think three distinct diseases prevailed during the epidemic. One of them diarrhœa, the other English cholera, the third Asiatic cholera. As an opinion has been promulgated that the malignant cholera existed in this country long before 1831, I wish to observe that I believe no two diseases to be more distinct than the English and the Asiatic cholera, and I believe that the cases in the Hackney Road Orphan Asylum, and those named by Dr. Ayre, were purely English cholera.

Dr. JOHNSON.—I am not disposed to agree with Mr. Proctor as to the three diseases. The diarrhœa is a beginning of the epidemic cholera, and that diarrhœa is only a greater degree of what Mr. Stephens felt. Scarcely any one, indeed, enjoyed perfect health during the cholera season.

Mr. PROCTOR.—The diarrhœa was distinct, because it often went no further. Besides, just such diarrhœas have occurred at other than the cholera seasons. Cholera, too, in the majority of cases that I have seen, has afforded no premonitory signs.

Mr. HOOPER.—For my part I have always traced a preceding diarrhœa. Medical men may often have been deceived on this point, because many patients were afraid of medical men during the epidemic, and sought no advice till the disease was far advanced.

Mr. HEADLAND.—These discussions are very heterogeneous. We are all still at sea on the subject. The advances made by us towards obtaining a knowledge of the disease, are not such as to raise the scientific character of the profession. What a mess of remedies is our treatment! I attended one case in which four medical gentlemen were consulted, every one of whom prescribed differently.

Mr. BURT.—And did the patient recover?

Mr. HEADLAND.—He did, Sir. (*Laughter.*)

Mr. STEPHENS.—My experience leads me to say, that Mr. Proctor's three diseases are all shades of the same malady.

Dr. WILLIAMS.—What, after all, is "malignant cholera?" How am I to know it from any other form of cholera? Some say that it kills rapidly; others, that it takes time. What is an undoubted diagnostic sign of the disease? I listened with great attention to Dr. Tytler's statements, but I did not gather from him sufficient distinctive marks to guide me. How far are we to regard common cholera morbus as the first grade of malignant cholera?

Dr. UWINS.—I and Dr. Johnson must take great credit to ourselves for having dissipated the cholera-phobia when it first arose in this country. The epidemic (thus we understood the worthy doctor, who rather bothered us; for, from being one of the most modest, he renders himself one of the most unfortunate, of speakers)—the epidemic owed all its malignity to an increase of malignity in the atmosphere. One-tenth of a grain of arsenic may do no harm: two grains will kill. An excessive dose of poisonous atmosphere did the mischief. I saw many cases before "Asiatic cholera" was said to be in this country, which must be set down under the head of "malignant cholera." Cholera is, in

fact, nothing more than a locked-up state of the secretions, and it is our business to unlock them, without plaguing ourselves about names.

Dr. NEGRIS.—I cannot coincide in these statements. The distinction between English and Asiatic cholera is quite plain. In the former, when the diarrhœa ceases, the patient is cured. In the latter, when it ceases the patient is worse,—he is then near dying. The signs also of the diarrhœa in the latter are very marked. When a patient is afflicted with the diarrhœa of Asiatic cholera, he presents a peculiar throbbing pulse, as though there had been much hemorrhage, or some affection of the heart, such a pulse as diarrhœa does not present under other circumstances,—a rather vivid and triflingly bloodshot eye, and an anxiety of countenance which is not common to simple diarrhœa. These, with the pathological characters detectable when the disease terminates fatally, render malignant cholera clearly distinguishable from the affections with which it is sometimes confounded.

Dr. SHEARMAN.—Till this point is fairly settled, all discussion on the disease is a waste of time. The distinctive marks between Asiatic and English cholera ought to be at once clearly pronounced, or the presumed distinction entirely waved. For my part, I believe them to be two diseases, candidly confessing, that during my experience of thirty or forty years, I never saw such a disease as that of 1831 before that time. Let us blindly wander from point to point no longer.

Dr. WALSHAM.—If the symptoms be the same, and such I consider them, why should the diseases be different? During the epidemic the symptoms may be more violent than at other times, but that is all. The same principles of treatment do for both,—dilution of the contents of the stomach, with chicken broth, for instance, and the use of purgatives,—though, to be sure, when collapse arrives, you can do nothing.

The PRESIDENT.—I dispute the position of Dr. SHEARMAN, for if we discuss none of the many questions that arise in this disease until our minds are satisfied on such and such points, we shall effect no good as a society. Gentlemen must, in the absence of certain preliminary information, tell each other, to the best of their ability, what they have seen, and the impressions made on their minds, no matter what views they support. We cannot conduct our discussion with strict regularity and mathematical order. The remarks of Dr. Negris, Gentlemen, are highly important. The distinction he has laid down, and the stage of the disease at which he fixes a distinction, have never before, that I am aware, been remarked by any gentleman. If the signs he has named be present in some instances of diarrhœa and not in others; and if you often find that the diarrhœa in one case leads to malignant cholera, a most important point is decided. Gentlemen, the hour of adjournment has now arrived.

Monday, November 4th, 1833.

RESIGNATION OF THE MEDICAL OFFICERS OF THE ALDERSGATE-STREET DISPENSARY.

MISTRUSTING the courage of the Society, we did not announce last week that it was in the contemplation of several members to propose the ejectment of Dr. WHITSED from their body, as an unfit individual to continue in fellowship with gentlemen whose interests he had eagerly sold for the price of a dishonourable notoriety. We rightly hesitated on the subject. To a certain compassionate feeling, however, we believe we must ascribe the apparent dereliction of a duty which the Society owed to the entire profession. It was rumoured that while, like JUDAS, the apostate physician had *sold* his brethren, like JUDAS he *repented*, and would, ere long, finding himself out of the pale of the profession, endeavour to re-enter it by returning his appointment into the hands of the committee. The conjecture was in some measure strengthened by an observation which fell from Dr. CLUTTERBUCK, who, with Dr. BIRKBECK, Mr. SALMON, and Mr. COULSON, were present this evening. Dr. CLUTTERBUCK having pointed out as a source of their defeat, the fact "that the committee out-voted the medical officers in the regulation question, by forty or fifty *new* governors made for the occasion,—a mode of carrying the question which the medical officers could not meet," observed, "Another cause of our failure was the readiness with which some individuals of the profession have aided the committee by coming forward to accept the offices we had vacated as places which it was no longer honourable to hold. I am sorry that even one of those individuals should be a member of this Society * * *. One who is even now, I believe, not influenced by improper motives in his conduct * * *, and one who will, I think, be the first to feel regret at finding himself placed as he is in the eyes of his professional brethren." The members contented themselves, under these circumstances, with passing the fourth of the following series of resolutions:—

1. "That in the opinion of this Society, the regulations recently recommended by the committee, and adopted by the subscribers of the General Dispensary, Aldersgate-Street, by which the medical appointments are offered to the competition of the richest, instead of the most talented candidates, is injurious to the interests of the poor, the respectability of the profession, and utterly subversive of the object for which such institutions were founded.

2. "That Drs. Birkbeck, Clutterbuck, Lambe, Roberts, and Messrs. Salmon and Coulson, are highly deserving the thanks of this Society, for the spirited and praiseworthy manner in which they have stepped forward to oppose the making public medical appointments matters of bargain and sale, and for resigning their offices, when they could no longer hold them without compromising their professional honour and independence.

3. "That the cordial thanks of this Society be given to H. R. H. the Duke of Sussex, for the zeal he has on all occasions manifested in patronising measures calculated to advance the interests of science, and to alleviate the sufferings of the distressed; and particularly for the countenance and support he so promptly afforded the late medical officers of the Aldersgate Dispensary, in their endeavours to uphold the dignity of the profession, and to promote the welfare of the sick poor.

4. "That the fellows of this Society exceedingly regret that any of their medical brethren should have so far forgotten the dignity of the profession to which they belong, and their own self-respect, as to have allowed themselves to be nominated and appointed to the vacant offices, trammelled as they now are by such an obnoxious regulation.

5. "That the foregoing resolutions be published in the Times, Morning Chronicle, and Globe newspapers, in The Lancet, Medical Gazette, and Medical and Surgical Journal; that copies of the votes of thanks, signed by the President on behalf of the Society, be transmitted to H. R. H. the Duke of Sussex, and to each of the late medical officers of the Aldersgate-Street Dispensary."

(Signed)
EDW. HEADLAND, } Secretaries.
H. P. ROBARTS, }

It is with regret that we postpone our report of the warmly-supported proceedings of the evening, but want of room compels us to omit it till next week.

ST. GEORGE'S HOSPITAL MEDICAL AND SURGICAL SOCIETY.

THURSDAY, October 10th, 1833. Dr. SEYMOUR in the chair.—This evening Mr. PEREGRINE read a paper "On the Motion and Sounds of the Heart." He principally confined himself to the subject of its motion. Drs. HOPE, WILLIAMS, and Mr. LANE, followed in the discussion, and an argument ensued whether the impulse of the heart took place during the diastole or the systole of the ventricles, when the president called upon those gentlemen who had witnessed any of Dr. Hope's experiments, to give the result to the society; accordingly Dr. ALDIS said that he had seen some of Dr. Hope's experiments, and that the impulse occurred during the systole of the ventricles. He also mentioned some cases, which had been under the care of Dr. Chambers, wherein there was a *bruit* with the first sound of the heart, and disease of the aortic valves. Mr. SMITH and Dr. HOPE afterwards had some discussion relative to the action of the auricles, and Mr. JAMES JOHNSON, after an amusing exordium to his speech, stated, that among his observations of Dr. Hope's experiments, no sound followed the contraction of the auricles. Dr. WILLIAMS in the course of the evening handed to the president an appendix which he had lately added to his work. A vote of thanks being passed for the gift, the meeting was adjourned till Thursday, October the 17th, when Mr. BRODIE took the chair, and Mr. JAMES JOHNSON read a paper on gonorrhœa.

Osteo-sarcoma.—Case of this Disease in both Jaws, in which Amputation at the Joint was effected, and very considerable Portions of each Bone were removed by Operation. By WILLIAM HETLING, Esq., M.R.C.S., Lect. on Surgery, and Surgeon to the Infirmary, Bristol.

THE above is the title of a paper in the 1st Vol. of the *Transactions of the Provincial Medical Association*, which, from want of space, we left unnoticed in our analysis of that work some months since. Our attention having since been called to Mr. Hetling's paper (which occupies more than sixty pages of the Vol.), we seize an opportunity briefly to speak of it. The paper embodies much more than the case. It comprises, in fact, a clever epitome of all that is known of osteo-sarcoma. Indeed, as an analysis, it almost exhausts the subject. The chief inference to be drawn from it is this—an important one—that diseases of the present description, either from the negligence of patients themselves, or from imperfect knowledge or indecision in the early treatment of the disease, are allowed to proceed so far that the knife at last becomes the only remedial measure. The references given in the appendix are valuable, and will save future writers on the subject much trouble, as the number of authorities has now accumulated to a very large amount.

THE LANCET.

London, Saturday, November 9, 1833.

ADDRESSES in approval of the conduct of the ex-medical officers of the General Dispensary in Aldersgate-Street, continue to flow in upon those gentlemen from various parts of the kingdom. These addresses, for the most part, are not only in the highest degree laudatory of the gentlemen who have sacrificed their personal interests rather than allow a spot to be affixed on the pure reputation of the profession; but, by an inferential mode of expression, the severest censure is levelled against those men who have volunteered to be the tools of the Dispensary Committee.

We are induced to remark, that the censure is conveyed *inferentially*, from the round-about manner in which some of the resolutions have been framed. It must be admitted, that in *all* of them the evidence of good feeling has been particularly apparent, though in no one instance are we enabled to discover that the disapproval of vicious conduct is to be followed up by a resolute determination never to associate in practice with the professional culprits.

In short, after perusing the reports of the late discussions in the metropolis, and after examining the various resolutions and addresses of the medical gentlemen resident in the country,—this question naturally forces itself on the mind:—"Will those practitioners who have been "so loud in declaring their approval of the "conduct of Drs. CLUTTERBUCK, BIRK-"BECK, LAMBE, and ROBERTS, and "Messrs. SALMON and COULSON, and "who have been so decided in their con-"demnation of the unprofessional be-"haviour of the unworthy agents of the "non-medical committee—will they,"—for that is the point,—"agree to meet "WHITSED, YATES, CASWALL, or "WYATT, in consultation?"

Truly, we hear, on all sides, that these Dispensary, these medical-charity, mongers, are "sent to Coventry," and that the resolutions adopted at the different Societies and public meetings, are the vehicles designedly framed for their conveyance thither. But if this be the *meaning* of the movers, seconders, and other speakers, why, in the name of honesty, is not the intention expressed in words which cannot be misunderstood,—which, in fine, defy all equivocation on the subject? If it were illegal for a body of gentlemen to declare openly, that they would not sit down at the same table, remain in the same room, or act in a medical capacity with A, B, or C, who had, avowedly, insulted the best feelings of the entire faculty, no surprise could be elicited on observing that a prudential discretion was exercised, in order to secure the speakers and addressers against the torturing fangs of the law. In such a case there would have been substantial ground for the exercise of a considerable share of caution. In the absence, however, of this danger, it appears to us, that the resolutions, as final measures, have been inadequate to the full expression of the feelings which they are supposed to indicate.

Shall we say that there has been pusillanimity? Such a word, possibly, would be too harsh for the occasion; but why, we ask, were not the offending parties denounced by name, instead of by *innuendo?* Denounced openly instead of disguisedly? —denounced in terms instead of by insinuation? Surely the members of the profession cannot fear to do what is right,—cannot hesitate to assert what they know to be correct!! There must be no "personalities," forsooth! Of course, then, there are no *persons* who have disgraced the medical character. There has been

no *personal* conduct which has demanded the late discussions; there has been no scandalous, mean, disgraceful conduct on the part of *individuals*, which has required that the whole profession should be agitated by glowing feelings of indignation. If there was to be nothing "personal," why have the ex-medical officers been thanked *by name?* Why was not an approval of the principle for which they have so zealously contended, deemed amply sufficient by the vehement supporters of that principle? That it is painful to a man to reprobate the conduct of a professional brother cannot be questioned, but it is far more disagreeable to a man of integrity to be required to conceal, under the cloak of cowardice or dissimulation, gross and scandalous offences against professional honour and respectability. After Dr. RAMADGE had written a letter commendatory of the rubbing practice of the cruel destroyer of the late Miss CASHIN, what was the conduct of Dr. TWEEDIE when he was called upon to meet RAMADGE in consultation? "I cannot consult with you,"—exclaimed that upright and spirited physician. And what, we ask, was the offence of the eulogist of LONG, compared with that of WHITSED, YATES, CASWALL, and WYATT?—RAMADGE avowed his support of only one slaughterer. The agents of the Dispensary Committee have volunteered to be the supporters of a host of slaughterers,—in fact, of the whole slaughtering Dispensary system.

Are they, then, to be joined in consultation by the respectable members of the profession? We certainly know what is said in private by many respectable practitioners, but we lament that there has not been a public expression on the subject, and a disclaimer, by name, of those persons *in* whose persons the character of the profession has been so signally scandalized. The talk about supporting or condemning a particular *principle*, without reference to *persons*, is utterly nauseating, is disgusting. How do we acquire our knowledge of principles except by the accurate observation and estimation of conduct? Surely if we were to act in conformity with the refined delicacy which has been observed towards WHITSED, YATES, CASWALL, and WYATT, in all cases of outrage against morality, professional etiquette, and common usage, we might altogether dispense with our courts of judicature, and terminate our condemnation of every class of delinquents, by declaring our abhorrence of knavish principles! If we were to give credit to the statements of some of the late speakers, we should believe that this moderation, this forbearance, shown towards the offending parties, by withholding names, would increase the severity of the punishment. Never was there taken a more erroneous view of an important question. What, for example, would RAMADGE have cared for a reprehension of the *principle* of joining in the advocacy of the notorious quack? It was the refusal of Dr. TWEEDIE to act with him as a physician that stung him to the quick. Further,—and this is important,—the *sincerity* of Dr. TWEEDIE in condemning RAMADGE's letter in favour of LONG, would have been questioned, would have been doubted, aye, would have been denied by everybody, had he continued to act with RAMADGE, as a physician who had done nothing to degrade the professional character. We do not ask physicians and surgeons on this occasion to announce to us what is their determination with respect to WHITSED and Co., because we know that such an inquiry would bring a load of letters, which it would be impossible for us to publish. Neither is such an inquiry necessary, because we are well assured that the honour of the profession will be nobly sustained by an immense majority of physicians and surgeons.

Nevertheless, we fear it will be said, at no very remote period, that the true respectability of the profession was in no way compromised, until large bodies of medical practitioners had refrained from boldly stating what would be their future personal conduct in relation to individuals whose principles of action they have sought every indirect means of condemning.

Dr. Epps, in this respect, presents a singular contrast to the rest of his professional brethren. This gentleman reprehends by name those identical physicians and surgeons whom all other persons are zealous in eulogizing, and the Dr.'s mode of arguing is as curious as his position is singular. Because Drs. Birkbeck, Clutterbuck, and Lambe, joined the Dispensary when the obnoxious law was in force, though they did not, in any way, take advantage of that law, they are not entitled to the "cordial thanks" of their professional brethren, in having sacrificed their own interests in an attempt to rid the profession, the dispensary, and society, of such an infamous nuisance!!

Again; Dr. Epps argues that Mr. Salmon has not acted with meritorious disinterestedness, and he proceeds to the proof by showing that Mr. Salmon had paid several hundred pounds to obtain that very office which he has voluntarily resigned. When Drs. Birkbeck, Clutterbuck, and Lambe, were reproved for having connected themselves with the Aldersgate-Street Dispensary at the time an obnoxious by-law existed in the institution, it should have been recollected, that neither at that period, nor up to the hour when The Lancet was first published, had one word appeared in our medical journals, illustrative of the abuses which the Dispensary system of this metropolis was calculated to produce. At that period public attention had not been directed to this terrible enormity.

Aware of the manœuvring propensities of the eel-backed President of the College of Physicians, the insulted and persecuted Licentiates have had an interview with the Secretary of State for the Home Department, for the purpose of ascertaining whether it was the intention of Government to confer on the Fellows of the College in Pall Mall, any addition to the powers which have sprung out of their usurpation. In the course of the conversation, Lord Melbourne assured the deputation that *no alteration whatever* in the charters of any of the medical colleges would be made, *until after the fullest inquiry had been instituted*, and that it was with the *perfect sanction of the Government that* Mr. Warburton *is to bring forward his motion early in the next session for the appointment of a committee to inquire into all the circumstances connected with the present state of the medical profession in England, Ireland, and Scotland.*

What say you to this, ye knighted and benighted diploma-mongers of the chartered monopolists?

INTERCEPTED LETTERS.

(THE SERGEANT-SURGEONCY AFFAIR.)

"Dear Doctor Seymour,—I have just received a polite note from an amiable female friend of mine, intimately connected with the Court of George the Fourth, our ever-to-be-lamented dear monarch, in which she tells me what I am afraid to allow myself to credit—that a statement will shortly appear in one of those abominable periodicals, of the whole of the transactions connected with the late appointment of Mr. Brodie, to the sergeant-surgeoncy. It will be of great importance, my worthy friend, that you trace the author of this, and, if possible, suppress its publication, making such promises as are usual on these occasions, for as I, doubtless, represent the head branch of the profession, any exposé of Court intrigue would, at this moment of threatened professional revolution, be most disastrous to all of us who profess a high moral feeling, and who wisely shudder at the mere name of innovation.

"You, I believe, are already in possession of most of the facts relative to the means by which Brodie obtained that appointment, and how cleverly we diddled poor Keate. There appeared in the odious journal a statement of my conduct in that affair, which, consistent with the elevated position in which I have, by a kind Providence, been placed, it would not have become me to contradict.

"But in order to enable you to carry on this negotiation, and which I earnestly wish that you do without delay, it is but honourable to apprise you of some additional important facts, that you may with your usual dexterity place the saddle on the right horse. Now the truth is, that I was obliged, however much against my conscience, to go hand-in-hand in all matters touching the Court of Windsor with Sir William Knighton, for Sir William was, virtually, as much the physician, surgeon, apothecary, and accoucheur, of George the Fourth, as he was 'Keeper of the Privy Purse,' or 'Comptroller of the Peace Establishment,'—as my dear friend the Marquis of Wellesley used to designate his 'Holy Callings.' Sir William it was who, by his *invisible* influence, forced Brodie's attendance on the late King; and our beloved monarch, who was as sharp and clever a gentleman as ever I saw, burst forth one day, and exclaimed, 'That d—d fellow Knighton *brought* me a Methodist parson, yesterday, instead of *sending* my own surgeon.' Poor dear Sir Everard Home had scarcely breathed his last, when, as you know, Keate called upon me, and I lost not a moment in calling upon Brodie. Knighton, most fortunately, was in town, living *incog.* with Dr. Locock, and he was bound to get this appointment, by hook or by crook, for Brodie, for reasons I may *tell*, but dare not *write* even to you, my kind friend—as you know, from experience, how nicely he managed your own *little matters* in getting you appointed to St. George's Hospital. Sir William having, along with King George the Fourth's personal surgeon, and two French cooks, been dismissed from the royal household of his present Majesty, and having got into *mauvais odeur*, he, with his usual magical tact, got Sir Wathen Waller, who happened at that very moment to be at Windsor, to state to his Majesty that the appointment of sergeant-surgeon was *promised* by his beloved brother, some time previous to his death, to Mr. Brodie! This hoax answered, and the appointment was accordingly given to that surgeon. Many hours had not elapsed before the royal eyes, which had been blinded by that old oculist Sir Wathen, were opened, and the King, as you well know, expressed to Mr. Keate, in the most unequivocal terms, his regret in having thus hastily 'fooled away the office,' and said that he had been 'taken by surprise,' or it should certainly not have been so disposed of, to one who had no claims on his royal favour; and you must be quite aware that King William has never admitted Brodie, but has loaded 'honest Bobby Keate,' as he calls him, with marks of attention and kindness.

"I hope you consider that this simple narrative quite exculpates me in the whole of this affair, but that it was quite necessary for my own interests to support Brodie.

"I find that Mr. Brodie's interview with Lord Melbourne has done anything but good. His Lordship had, unfortunately, been warned of his object, which, along with the very unfavourable impression made by Guthrie, forces me now to begin to consider our case hopeless in *that* quarter. Lord M. observed to a friend of mine, 'that Mr. Brodie had an air of humility and simplicity in his manner, yet, being a half believer in phrenology, he thought that Mr. B. appeared to have the organs of "secretiveness" and "acquisitiveness" of their *full size*.'

"Let me conclude, dear Doctor Seymour, by entreating your most serious and early attention to this letter, and believe me your very faithful friend and well-wisher,

"* * * * * * * * * * * * * * *

"Leicestershire, Oct. —, 1833.

"P. S.—Mr. Brodie writes me that Professor Mayo's 'rectum advertisement' has never appeared since my animadversions on its abominable character; and that Sir Astley, at the last meeting of the Council of the College, was very *jocose* on the subject. Addressing himself to Copeland and Howship, he said, 'I suppose your *fistulæ* gentlemen have CUT Mayo.' I am glad there has been no more of his rectum puffs."

DR. O'BEIRNE'S VIEWS OF THE PROCESS OF DEFECATION.—LETTER FROM MR. OLDKNOW.

To the Editor of THE LANCET.

SIR,—You will oblige me by giving publicity to this letter, the subject of which is relative to the controversy between Mr. Salmon and Dr. O'Beirne, respecting the novel and very interesting opinions of the latter gentleman, contained in his valuable work on defecation.

In one of the April numbers (this year)

of the *Medical and Surgical Journal*, Mr. Salmon has inserted some critical remarks on the publication of Dr. O'Beirne; and amongst other things, he denies the *non-existence of stricture* at any point lower down than the *upper extremity of the rectum*, and offers to prove this by morbid specimens in his own collection. In a subsequent number of the same journal (August 24th), Dr. O'Beirne has replied to Mr. Salmon, showing the fallacy of the latter gentleman's arguments, and appointing as umpires between them Mr. Guthrie and Mr. Bransby Cooper, saying, "If either of these gentlemen informs me that you possess preparations showing *distinct, thickened, and shelf-like projections*, from any part of the interior of the rectum, lower down than its upper extremity, I hereby bind myself to at once publicly recant my error."

Now this, Mr. Editor, involves a question of great practical importance, and if Dr. O'Beirne's statement be true, it is, confessedly, quite contrary to the generally received opinions; may I, therefore, request to know, why the umpires chosen on this occasion have not given their decision, and may I be allowed to express a hope they will yet do so, as their reputations are deservedly well calculated to settle the point in dispute, which cannot fail of being interesting to the whole of the profession? I remain, Sir,

Your obedient servant,

HENRY OLDKNOW.

Nottingham, Nov. 4th, 1833.

LONDON HOSPITAL.

POISONING BY LAUDANUM.—RECOVERY.—ANTISOPORIFIC QUALITIES OF GREEN TEA.

J. K., a middle-aged man, was admitted into Harrison's Ward on Saturday evening, September 14th, labouring under the effects of laudanum, which he had taken with a view to self-destruction. Upon inquiry it was ascertained that the patient was a *medical man*, living in the neighbourhood of the Commercial Road, in very reduced circumstances, the father of ten children; that he had formerly been surgeon to the dispensary at Kinsale, a town about twelve miles distant from Cork, and had been compelled to bid farewell to his native country from an accumulation of adverse circumstances, over which it appeared he had no control.

On his admission his case presented the following symptoms:—Considerable torpor, from which he could be aroused only with great difficulty, having taken the poison (rather more than an ounce) an hour previous to his being brought to the hospital. His breathing was laborious, the pupils were very much contracted, and not obedient in the slightest degree to the stimulus of light; pulse 126, small, and irregular in force; slight perspiration on the forehead.

The stomach-pump was immediately employed, when three pints of warm water were injected, and quickly withdrawn. After the lapse of a few minutes, the operation was repeated. As no very decided improvement followed the use of the stomach pump, after waiting some time, he was ordered a strong infusion of green tea, of which he took about three fourths of a pint, and by the assistance of two powerful men placed on each side of him, was made to walk slowly backwards and forwards in the lobby. This was by far the most troublesome part of the treatment. The patient would walk pretty well for a few paces, and then his legs would yield beneath him, his chin at the same time falling upon his chest, and the patient presenting the appearance of a corpse. Half an hour having elapsed without improvement, the pupils of the eyes being, if possible, more contracted, (now not larger than the head of a *very small pin*); the jugular vein was opened, but as only three ounces of blood could be abstracted, the operation was performed on a vein of the arm, from which sixteen ounces were readily obtained. Before eight ounces had flowed, a most distinct alteration in the state of the pupils had taken place; they were more dilated, and now sensible to the stimulus of light. These symptoms became more apparent as the quantity of blood drawn increased. The infusion of tea was administered at intervals, until the stomach would bear no more. He vomited a good deal, after which, from having been in a frightful state of stupor, he became quite querulous, and among the first expressions greeted his attendants with the following,—"Nemo mortalium omnibus horis sapit." About half past twelve o'clock, sensibility being restored, he was allowed to go to bed. An ounce of castor oil was given, which was instantly rejected; afterwards 5 grs. of *calomel* with 1 minim of *croton oil* in the form of pill.

Sept. 15. Slept badly about two hours during the early part of the night; disposed to converse; complains of slight uneasiness about the head and throat; pulse tranquil. He expressed his gratitude for the care taken of him in language which plainly told that he had once moved

in a very different sphere of life from that of his present days.

Ordered to take an effervescing draught every three or four hours, composed of lemon-juice and

Carbon. Ammoniæ ʒss;
Tinct. Zingiberis mxx;
Aquæ ʒiss. M. ft. haustus.

Three doses of the medicine were taken, which had the effect of tranquillising the stomach. In the afternoon, he felt so much recovered, that he could not rest happy longer in the hospital, and therefore left.*

Although the speedy recovery of this case cannot be mainly attributed to the infusion of green tea, it is considered at this hospital (where its beneficial effects have been witnessed on many occasions) as an important auxiliary to the treatment usually adopted in cases of poisoning by laudanum. The watchful state of the patient, during the greater part of the night, is worthy remark, and fully justifies the reliance placed in this remedy as an antisoporific.

TYPHUS GRAVIOR.

Edward Jones, æt. 30, a shoemaker, was admitted into George's Ward on the 20th of September, under the care of Dr. Billing. He states, about eight days previous to his admission, he felt an unconquerable indisposition to move about, that he experienced considerable lassitude, and was much inclined to sleep; these symptoms were very soon succeeded by chilliness, heat of skin, and slight perspiration. The patient has had no shivering since he has been in the hospital; the temperature of the skin is rather above the natural standard, but moist; complains of slight pain in forehead, and excessive weariness; pulse 128, rather full; the tongue loaded with a dirty white coating; bowels open; the whole body covered with petechiæ of a dark-brown colour.

Dr. Davies, who has for some time past attended to the in-patients for Dr. Billing, directed the attention of his pupils to the eruption. He observed that pressure would enable them to discriminate purpura from almost every kind of eruption, for, as the discoloration of the skin in purpura depended upon extravasation of blood, pressure on the spots would not effect any change in their appearance, whereas in petechiæ, and most eruptions, a temporary disappearance could be produced. Dr. D. added, that it was a case which required close watching, at the same time he cautioned the pupils against doing too much in such cases. He feared it would run on to the "typhus gravior" of Cullen.

Ordered his hair to be cut short; twelve leeches to the temples; evaporating lotion to be constantly applied, and

Haust. Cathart. statim.
Mist. Salin. Antim. q. q. h.

Sept. 21. Much worse; pulse weak; tongue brown and dry; petechiæ increased in size and number; subsultus tendinum, and great cerebral irregularity.

℞ *Tr. Cinchon. Compos.* ʒj;
Sodæ Carbonat. ʒj;
Dec. Cinchon. ʒiss M.
H. haust. ter indies capiendus.
Eight ounces of wine daily.

23. In every respect worse to-day; it was necessary to put a strait-waistcoat upon him to keep him in bed during yesterday and last night; not quite so restless, but still delirious; pulse 142, small and weak; tongue dry and brown; petechiæ more distinct, and covering the whole body. Persist in the wine and decoction of bark.

24. Better, more collected, and quiet; rested well last night; bowels freely relieved; tongue a little cleaner. Continue the medicine and wine.

27th Sept. Has continued tolerably quiet since the 24th; is conscious at times; he put his tongue out, after some little trouble; its edges were moist, but dry and brown in the centre. Petechiæ disappearing, pulse 100; stools and urine passed involuntarily. Bark and wine continued. There is something very particular in the physiognomy of this patient to-day, the cheeks are collapsed, the eyes somewhat sunken, the head has an inclination to the right shoulder which gives to the countenance a particularly idiotic expression. Dr. DAVIES remarked that this was a case not at all unlikely to terminate, after all febrile action had subsided, by leaving the patient in a stultiform condition, in which he might remain for many months. Dr. D. here related the following very interesting cases of the kind, which had fallen under his own observation:—"A gentleman, formerly a pupil of this hospital, who was well known from the great diligence and zeal with which he pursued his anatomical studies, as well as the avocations of dresser, which occupied daily more or less of his time,

* Left? Can it be possible that this unfortunate *insane* man, who only twenty-four hours before had all but succeeded in an attempt to *poison* himself, was permitted to leave the hospital unattended, unprotected, and pennyless? Shame on such cruel, such inhuman negligence.—EDITOR.

sickened with fever of a mild typhoid character, which ran on until he was brought to a most pitiable state. However, he gradually recovered, but not without considerable impairment of the mental faculties. Several months elapsed before he could distinguish the sphenoid bone from the fibula, notwithstanding he had previously been a very excellent anatomist. His memory underwent gradual improvement, but he never regained his retentive faculties sufficiently to admit of his following his professional studies. Fortunately for this young man, he possessed great perseverance, and by dint of hard work he was enabled to take an assistant's situation with a chemist and druggist."

28th Sept. Passed a good night, more conscious, put his tongue out very readily, which was moist, and regaining its natural appearance; pulse 98, soft.

30th Sept. Continues to improve daily, much more collected than he has been since the first day of his admission; he alluded to the disappearance of the petechiæ; still passes his urine and motions in bed.

1st Oct. He complains only of weakness; passes his urine and motions in bed, during the night *only*. Petechiæ quite banished. Persist with wine and medicines.

3rd. Feels himself pretty well; should like some porter, "for he thinks it would do him more good than the wine." Slept very well last night; "thanks God he does not sleep quite so much as he did at the commencement of his illness, for he used to sleep night and day, which he thinks very curious; supposes the medicines broke it off, but for that part of the matter he thanks the medical men." Pulse tranquil, holds his water very well. Ordered a pint of porter in addition to the wine, &c.

4th. Continues to improve; the left eye, which had been slightly inflamed for two or three days, was much worse this morning. Ordered 12 leeches to left temple, and to be repeated every other day; blister to back of the neck. Continue the wine, &c.

12th. He is getting well rapidly; the inflammation in the eye subdued. The wine has been discontinued several days; eats his full allowance, and is not quite so particular as to the quality of his food as he is to the quantity.

WESTMINSTER HOSPITAL.

CHOLERA — ABORTION — DISEASED HIP — DEATH — STRANGULATED INTERNAL HERNIA.

Jane Headman, a beautiful young creature, about eighteen years of age, was admitted on the 8th of August, on the plea of having received a fall on the right hip. She was placed on her back in bed, and thirty leeches were applied to the groin, which is the part of the surface nearest to the hip-joint. These were, apparently, quite effectual, for, on the second day, the patient exhibited symptoms of the Asiatic cholera, and the hip was no more complained of. She even suffered rotation and flexion to be rudely practised, without expressing any uneasiness. This case was considered an instance of the Asiatic form of the disease, though some of the most characteristic marks were absent, such as the vox cholerica, the cold tongue, and the serous dejection downwards. The retraction of the eyeballs, the dark halo round the orbits, the contraction of visage, producing the peculiar *smile* appearance and expression, the rice-water vomiting, the small feeble pulse, the cold extremities, and shrunken dusky surface, were indications sufficiently numerous to place it under the banner of the Asiatic invader. Effervescent draughts, with excess of soda, were exhibited every hour. The sickness became alleviated, and the disease was to all appearance gradually succumbing.

Aug. 13. The countenance is a little more animated, the eyes less sunken, the pulse 96, soft, but tolerably full. Tongue warm; bowels gently open; stools of good *bilious* colour. She converses cheerfully, and says her hip is perfectly well. To-day Mr. White visited her, and pronounced the disease to be cholera. When asked by one of the pupils what his opinion was of the principle promulgated by Mr. Brodie, that cholera was invariably preceded by a premonitory diarrhœa, he said, that his experience did not corroborate the statement of Mr. Brodie, for, in the instances in which diarrhœa occurred, as the forerunner of cholera, it must be considered as part of the choleric action, and consequent upon the state of incubation, not prior to it, as Mr. Brodie supposed. But he believed that, in the majority of cases, the onset of the disease was characterised by a *simultaneous* occurrence of a majority, if not of all, of the symptoms

24. A few days after the last notation, the patient fell off from convalescence,

complaining of pain in the loins and abdomen, and tenderness on pressure in the hypogastrium. Divers soothing applications were used, and with apparent alleviation. These symptoms continued for a day, and at night the patient miscarried, and expelled a fœtus about *three* months old. She concealed this circumstance from the nurse, and endeavoured to relieve herself from the placenta with her hands. This she did not succeed in doing, for each attempt created pain, and occasioned a rather copious hemorrhage. At the hour of the house-surgeon's visit in the morning, she was in a state of great irritation. Pulse quick, small, 100. The fœtus was found in the bed. An attempt was made to detach the placenta, but this could not be completely effected, for a part remained adherent to the fundus of the uterus. The hemorrhage, however, ceased. She now again complained of pain in the right hip, and of tenderness over the abdomen. Her strength and appetite rapidly diminished, and she expired the day before yesterday.

Autopsy.—The body was examined today, and when the sternum was removed, and the abdomen opened, Mr. WHITE called the attention of the students to the beautiful manner in which the relation of the several viscera was exhibited. All the thoracic organs were particularly healthy. In the abdomen, the omental apron afforded a complete covering to the subjacent viscera, and descended into the pelvis. When this membrane was raised, the exposed parts seemed altogether healthful. The mesenteric glands were, however, a little enlarged, and the lacteals were well marked, being filled with chyle. In the pelvis a quantity of pus was discovered in the peritoneal sac, between the back of the uterus and vagina, and the anterior surface of the rectum, but no solution of continuity, or deposition of lymph, could be discovered in any part of this extensive membrane. The portion of peritoneum, however, which lined the pelvic viscera, was of a pearly and opaque appearance. The uterus was as large as a swan's egg, and had evidently contracted since the expulsion of the embryo. On its interior surface, two portions of placenta were firmly attached, evidently the result of inflammation. The right cotyloid cavity (ossis innominata) was examined, and a considerable quantity of its cartilaginous lining was found ulcerated.

Mr. WHITE was induced to explain on the exposed parts, the nature of a case he had recently attended. A nobleman had inguinal hernia on the left side; the gut came down through the external abdominal ring, and was returned without difficulty, yet the patient had all the symptoms of strangulation. Mr. WHITE was convinced that there was no strangulation in the seat of the *apparent* hernia. Glysters and other internal remedies, therefore, were alone resorted to. The patient died, and the post-mortem examination explained the mystery: a rent had by some means been effected in the omentum, and a knuckle of small intestine had been strangulated in it, and had ultimately mortified.

PARAPLEGIA AND VARICOCELE.—MOXA, SYRINGE, AND CONE.—STRYCHNIA.—ATONY OF SPINAL CHORD.

August 31.—James Madden, whose case (varicocele and paraplegia) was alluded to in No. 520 of THE LANCET, after having had his bowels regulated by the administration of purgatives, and the moxa assiduously applied to the lumbar portion of the vertebral column, did not find himself materially benefited. The moxa is applied in this hospital by means of a syringe made for the purpose. The caliber of the pipe of this syringe is sufficiently large to admit a tolerably thick roll of lint, which may be dipped in a solution of nitre, or not, according to the intensity of stimulus ordered in the prescription. This roll being once kindled is kept in a state of ignition by the action of the piston, which occasions a constant draught through the burning lint. When the piston is sent home, the heated air is driven against the skin, and acts as a rubefacient or other counter-irritant. This fashion of using the moxa is certainly less painful than the original Indian mode of burning flax and the "moxa down" combined in the form of a cone, and which was strongly recommended on the continent many years ago by VALENTINI and KŒMPFER. The modern continental method, practised by BARON LARREY and others, is copied from the Chinese and Japanese, whose practice was first described by KOEMPFER in his account of Japan. Vide *Amœnitates Exoticæ*. KOEMPFER's directions are the following:—

"In the first place, you are to make a small cone of lint or moxa, about a thumb's breadth long. The basis of this cone is to be stuck upon the part with gum arabic, and its point is then to be fired by a candle, or a burning coal. By this means not only will the cone be gradually consumed, but the painful part will be by degrees cauterised, and thence the pains will frequently have some remission. But if the pains do not entirely vanish at the first, a new cone is to be applied again

to the part, and the cauterization thus continued till the pain ceases." This is exactly the mode adopted at present by the French. The syringe is much more convenient than the cone, and equally effective, if not more so, for the surgeon may inflict with it any degree of stimulation, from simple rubefaction to vesication or sloughing. Generally speaking its beneficial effects have not been much exhibited in the practice of this hospital. In the case of Madden it has been nearly inert.

Mr. Guthrie finding that the patient did not make any great progress, determined to try the *Strychnia*, and he prescribed at first a quarter of a grain, in the form of pill, to be taken twice a day. In a few days the dose was increased to three times a day. Its effects soon became evident. The general sensibility became very much increased; he had frequent subsultus of the muscles, and the slightest impulse on any of the senses acted as a powerful shock; his sleep, too, was by this means considerably impaired. The dose was increased to a grain a day, when its operation became so unpleasant, and even painful, that it was discontinued for a season. It is now resumed at the rate of a grain daily, and does not produce so much nervous disturbance as before. The patient considers himself to be much better, and an examination will show that he is not mistaken. His countenance is more animated; his memory improved. He walks with more steadiness. He retains his feces longer, and makes water, which is now not ammoniacal, about a dozen times in the twenty-four hours, instead of 150 times, which he was compelled to do before he began taking the strychnia. There is hardly a trace of mucus in the urine. He takes moderate diet and exercise, and his spirits and strength are improved. The varicocele is much as it was. The strychnia has been very successfully employed by a late officer of this hospital, in several cases of paraplegia arising from atony of the spinal chord.

HYDROCELE.—A ROYAL PUN.

Mr. Lynn lately had a little job of hydrocele of the left tunica vaginalis. The patient was a large-boned coal-heaver, about thirty-five years old, muscular, and not deficient in adipose covering. He had been more a Giovanni than a Joseph in his life and conversation, and had incurred some half-dozen claps. He was evidently a porter-swigger of the highest, or, more properly, of the *deepest* class. A few months since, he became conscious of an enlargement in the affected testicle, which had gradually increased in size, but he had not observed anything remarkable in the manner of its growth. When examined, the side of the scrotum appeared exceedingly tense and hard, but there remained no doubt on the minds of the surgeons present as to the nature of the case. The weight, shape, temperature, and touch of the tumour afforded sufficient indications. When the trocar pierced the sac, the fluid contents, which were pellucid and nearly colourless, jetted out with considerable force, and excited a ludicrous degree of astonishment in the patient. Mr. White observing this said, "How do you think so much water came there, my man?" "Why, your honour," replied the sailor, "I suppose as how it has worked its way through the timbers, like so much bilge-water." Several ounces of "bilge-water" were drawn off; but the sac was not injected, for reasons which did not transpire. Mr. Lynn said the testicle was enlarged about a third more than its natural size, upon which Sir A. Carlisle observed, that thirty years ago the man would have been castrated.

As soon as this man was dismissed, Mr. Lynn, with an eye as sharp as a falcon's when pursuing his quarry, pounced upon a little tumour in the cheek of a gentleman who was sitting near him, and, scalpel in hand, proposed its immediate excision. In spite of the ardent wooing of the operator, however, the proposed patient "declined submitting to the knife for the present." Mr. White examined the tumour, and said it was a steatoma, and advised its speedy removal. His late Majesty (of blessed memory) George the Fourth, he said, had a tumour of a similar kind on his forehead, and when the excision was first proposed by Sir A. Cooper, the King declined, observing, "If it be what you call a *steatoma*, it shall *stay at home* with me at present." Mr. White, being a good Tory, considered the royal pun a remarkably smart one, but others thought it very queer, — somewhat like a piece of old rope which must have some taughtish *twists* before it can be turned to any account. In the course of time, the steatomous tumour, like other royal favourites, was discarded, and surrendered to the tender mercies of the sergeant-surgeon.

York County Hospital.—(*From a Correspondent.*)—The late election of an apothecary to the York County Hospital, ended in the choice of a youth who is only twenty years of age. There were were four candidates for the situation, viz., Mr Sadler and Mr. Scawin, surgeons and licentiates of the Apothecaries Com-

pany, and Mr. Harle and Mr. Smith, pupils. At the close of the election the numbers were, for—

Mr. Smith, 63; Mr. Sadler, 21.
Mr. Scawin, 6; Mr. Harle .. 1.

MEDICAL REFORM MEETING.—At a meeting of general practitioners, held at the *Sussex Hotel*, Bouverie-Street, Fleet-Street, on Saturday, Nov. 2nd, "to take into consideration the infringements made on the profession by unqualified persons, and to confer on the most efficient mode of removing this injury," it was resolved, "That a public meeting of the medical profession be convened for Friday, the 15th inst., at the above hotel, at half-past seven, exact time, for the furtherance of the above object."

(Signed) SAMUEL PROCTER, Chairman.

INADEQUATE MEDICAL REMUNERATION.—(*From a Correspondent.*)—The party at Horsham, calling themselves "The Select Vestry," lately offered the liberal sum of 100*l.* a year for the medical attendance (including all surgery and midwifery) on nearly 2000 paupers in that district. The practitioners of the town were, as honourable men, fired with indignation at the proposition, and took occasion to declare that they would not submit to the vile and detestable system of farming the sick poor by tenders but that they would be fairly, though moderately, remunerated for their time and attendance. But the Select Vestry were immoveable, and twice advertised in a provincial paper, that they were ready to receive tenders for the medical and surgical attendance on the paupers. No success followed. They then summoned a special vestry, and sent the following advertisement for insertion on the wrapper of THE LANCET, Nos. 520, 521, wherein it was said, "The extent of the parish is about seven miles in length, and three in width. The number of paupers in the workhouse average about sixty-five." When the select vestry state that the number of workhouse paupers average sixty-five, they omitted the fact that the paupers *out of the house*, including men, women, and children, average nearly, if not quite, 2000. And for the medical care of 2000 persons, all medicines, vaccination, attendance on all midwifery-cases in this great parish, 100*l.* a year is offered! I am sorry to say, that a candidate for this office has been found; one who has subscribed to the terms, and is now installed in the office. If the members of the profession were but true to themselves, such defeats as this could never happen.

CORRESPONDENTS.

The letter of *R.* would have been inserted had we not known that its publication would be rendered unnecessary by a letter which appeared in the last number of THE LANCET. Mr. SCOTT stands exonerated from blame on the "old-Student" affair. Would that we could say as much with regard to his fatal operation, an account of which was published in the last LANCET. We ask R, in particular, What were the characters of the tumour? Under what classification is it to be placed?

Mr. J. H. N.—Were we to notice one in fifty of the unchemical prescriptions which are issued, our journal would be occupied with little else. We entertain an unconquerable dislike to adverting, even remotely, to the conduct of private practitioners. When surgeons disgrace themselves by printing cards and issuing circulars, they become the legitimate subjects of comment.

The letter of *A late Pupil of Guy's Hospital* shall certainly be inserted. That communication, with scores of others, has been postponed from time to time, from a want of space for it and the remarks with which we intend to accompany it. Under the press of matter before us, it would be easier for us to publish three numbers a week than one.

ADMITTANCE TO HOSPITALS.—Nothing can be more scandalous than the closure of the doors of an hospital against the medical practitioners in which it is situated. The usage at Colchester does not differ from the hole-and-corner system at several other places. It is quite clear that the dread of public observation does not arise from an apprehension that knowledge will be imparted by the manual dexterity of the operators.

MR. DERMOTT has sent us a communication, in which he announces, that a public examination of his class by competent examiners will take place at the end of the session, and that prize diplomas will be awarded to the most accomplished of his pupils.

An "Occasional" states, that Mr. MAYO has been in the habit of presenting THE LANCET to the Reading-room of King's College; but that in consequence of our exposure of his quacking advertisement, he is displeased with us, and has discontinued the gift. We shall endeavour to bear up against so terrible a visitation as the anger of Mr. Mayo.

NEW KIND OF CHEMISTRY.—A candidate for the Apothecaries' license was lately sent back for six months, with the injunction that he should make himself more perfect in "*philosophi-*

cal chemistry" during the interval! Some test for albumen was the stumbling-block.

Forbidden Fees.—A correspondent informs us, that notwithstanding a regulation exists at Apothecaries Hall, that no servant of the establishment shall accept a gratuity from candidates for the license, it is by no means uncommon for the menials to touch their hats to the gentlemen, and hope that "something will be left for them." The beadle at the College manages this matter another way. He says that he cannot take a crown from any gentleman, b ut he allows it to be left "for his little boy."

Amicus Justitiæ must authenticate any statement of facts, for which only we shall have room.

The ably-written letter *A Student of the London University*, should have a place could we afford room for it. We believe, however, that his antidote is not needed. The arrow, though poisoned, was so weighty with lead, that it fell harmlessly to the ground as it quitted the bow.

The *Paul Pry* style is not suited to the serious subject treated by our correspondent lately at Brighton. We have put some of his facts in another shape.

The points in the letter of *Mr. Harris*, are not sufficiently strong to shame such a shame-hardened body. It adds but little that is new to the admirable narrative we published in February last.

E. H.—It is not in our power to furnish a decisive reply, for a lamentable illness, which still continues, has prevented the author from preparing for the press the unpublished portion. Several months may yet elapse, and the number extend to a dozen. The volume might be bound, and an appendix be added in separate covers.

Jasper.—We have not room for a reply to the arguments (so called), which have been employed elsewhere; and, moreover, regard the back's article as an utterly contemptible production.

Junius has not yet given the back time enough. Moreover, it would be useless to flourish the knife in the field, when the pig to be killed is shut up in his sty.

Such facts as those forwarded by *An Old Subscriber*, are acceptable, but we cannot always publish them. We quite agree with our correspondent, that a remedy for the scandalous proceedings referred to might be placed in the hands of a governing body, freely elected by the whole profession. We shall be glad to see the drawing mentioned.

A Dispensing Assistant.—We do not find any such anatomist on our list.

We agree with *Mr. Close*, surgeon of Holmfirth, that "the statements of Dr. Tytler admit of no doubt as to the connexion of rice with the origin of cholera," and should Mr. C. have any facts to communicate bearing on that question, we shall be happy to insert them.

We are informed that the library of the London Hospital contains numerous excellent works of entertainment, as well as volumes on subjects of religion.

Mr. Hay.—The case is properly drawn up, but presents no point of novelty.

Mr. Woodcock.—The patients were treated with great propriety and discrimination, but the cases do not afford any new points of practice.

A Constant Reader.—The two "qualifications" would not be considered as "equivalent to two sessions."

S. T. P.—The pains are undoubtedly the result of an excess or abuse of the indulgence, partial abstinence from which is essential to health in this instance.

Alpha.—The despicable fellow is unworthy even of a castigation from such hands. He cannot be further degraded.

S. H. R. W.—The persons who propose to devote the greater portion of their attention to that subject are quacks. Our correspondent will find himself quite secure in the hands of any regularly-educated surgeon in general practice.

The note of *W. C.* is an ingenious piece of irony; but, after all, Stanley is but an indifferent subject for a joke.

A General Practitioner of Marylebone can have nothing to fear from such a contemptible opponent.

E. M. ought to apply to the heads of the department in which he wishes to serve.

The note of *Mr. Boucher* is an advertisement.

An Old Subscriber.—Can such a puffer be worthy of serious notice? A plaster of mud would be pleasing to the fellow if it but drew attention to him.

If *Amicus* will afford us reason to be satisfied of the invariable authenticity of such communications as those of which he has forwarded to us the one published this week, we shall be glad to hear again from him, and will always endeavour to find room for what he may send.

Mr. John Wiblin is informed that it was no inquest at all, as the coroner had not a right to appoint a deputy. The worthies noticed in the postscript will not be forgotten, but their hour is not yet come.

An Old Subscriber.—Unless a coat of the matter remained attached to the caustic, and unless the caustic were applied to the second sore immediately, it is not likely that the constitution would be contaminated thereby, but no *surgeon* could be guilty of such criminal negligence as the question of our correspondent implies.

Mr. C. W.—The work shall be noticed at an early period. It appears to possess considerable merit.

F.—Application had better be made to Mr. Kendrick, 12, Manchester-street, Manchester-square.

A. B.—There is no remedy.

Bristoloniensis.—Our correspondent must have perceived in the last Lancet, that Mr. Scott was exonerated from the charge by the very gentleman who made it.

The letters of *Mr. Goss*, *Mr. Macnee*, *An Old Student of St. Thomas's*, *Mr. Dorsey*, *Mr. Sherriff*, *Mr. J. Curtis*, and several others, are intended for publication.

Amongst other communications, we have received letters and papers from *Dr. Grattan*, *Dr. Harrison*, *A Naval Assistant-Surgeon*, *A Medical Student*, *Mr. Dillon*, *Mr. John Foote jun.* The resolutions from *Wigan* next week.

Erratum.—In Dr. Seoane's speech, page 144, line 19, for *two men* read *eighty-two men*.